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# ARIZONA MEDICINE

JOURNAL OF ARIZONA MEDICAL ASSOCIATION

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

SSN 0004-1556)

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**XXXVIIII, NO. 1**

# Local families find young adult treatment program helps solve serious problems.

The period from approximately 18 to 25 years of age can be the most difficult of a lifetime.

It is a time of change, decision-making and responsibility-taking. Young adults are pulled in every direction, and many are not prepared for the sudden transition from childhood to adulthood.

Confusion, anxiety, a sense of failure and depression are overwhelming experiences for the young adult, and the use of drugs and alcohol only make things worse. As a result, the young adult is often immobilized by uncertainty.

At Scottsdale Camelback Hospital, our Young Adult Treatment Program works closely with such young people to stabilize their emotions and alleviate symptoms. The program lays a foundation for growth and development. Values are clarified. Career goals are examined.

The program has been instrumental in solving serious problems for a number of families faced with the need to assist a young adult during this trying period. If such a problem is occuring in your family, you are urged to consult your physician about our program, or to call Scottsdale Camelback Hospital for further details.

Camelback Hospitals are among the leading psychiatric centers of the Southwest. An open medical staff of more than 60 psychiatrists, as well as psychologists, psychiatric nurses, social workers and activity therapists provide 24-hour care. Camelback Hospitals and Camelback Mental Health Center are fully accredited and licensed by the State of Arizona.

There are specialized programs for adolescents (13-17 years of age) at our Phoenix Camelback Hospital.

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- The Hohokam Room provides specific care for individuals addicted to narcotics, either street drugs or major pain relieving drugs.
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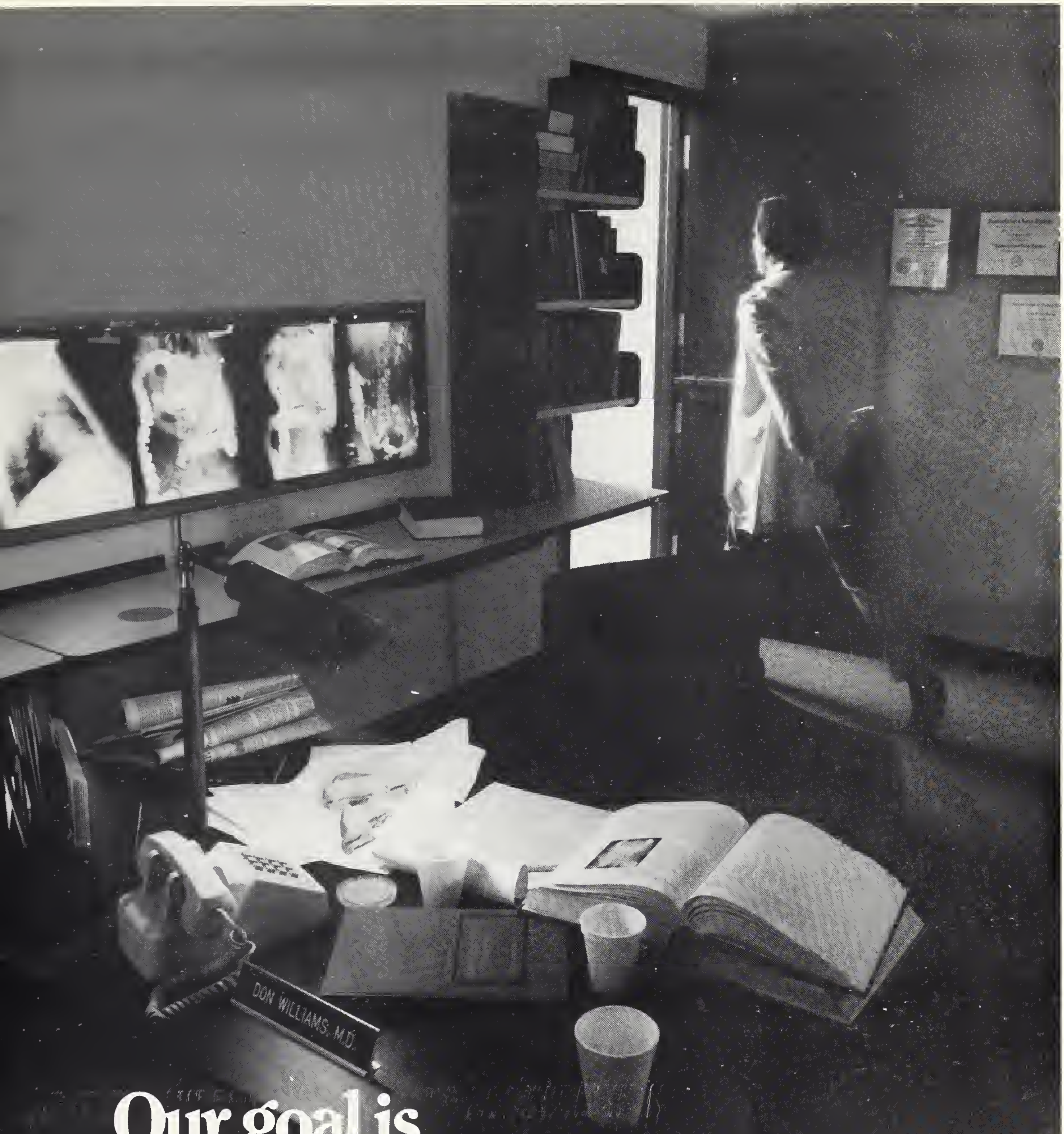

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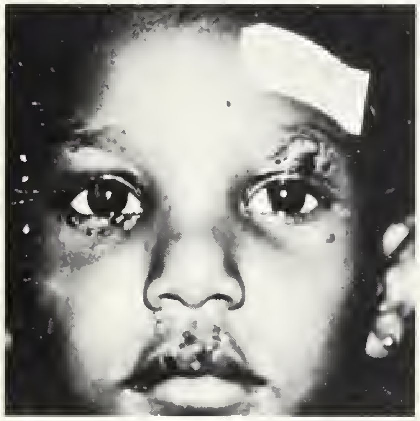
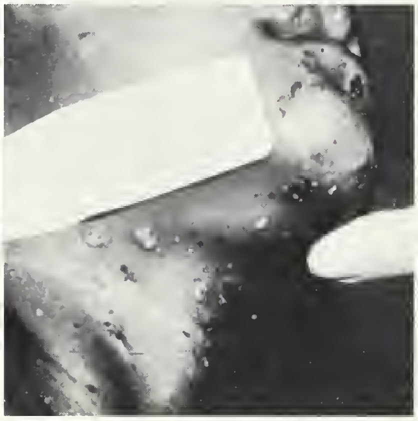
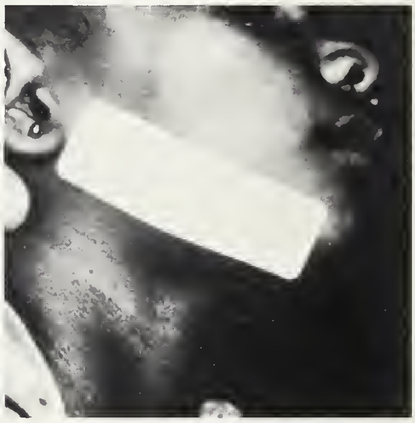
- **only a 60% cure rate with penicillin V-K**



As seen on admission



After one week of penicillin V-K therapy



Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

**Brief Summary of Prescribing Information**

**TEGOPEN®**
(cloxacillin sodium)
**Capsules and Oral Solution**

For complete information, consult Official Package Circular (12) 9/11/75

**INDICATIONS:**

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

**IMPORTANT NOTE**

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

**CONTRAINDICATIONS:**

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

## RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

| | | Given Tegopen® *(cloxacillin sodium)* | Given *penicillin V-K* |
|---|---|---|---|
| ***Staphylococcus aureus*** | (78 patients) | 39 | 39 |
| Returned to clinic at one week | | 29[†] | 38[†] |
| Treatment failure at one week | | 0 | 18 (47.4%) |
| ***Staphylococcus aureus* and *Streptococcus pyogenes*** | (9 patients) | 4 | 5 |
| Returned to clinic at one week | | 4 | 5 |
| Treatment failure at one week | | 0 | 2 (40%) |
| **No initial bacterial growth** | (14 patients) | 9 | 5 |
| All 14 healed, regardless of which antibiotic was administered. | | | |
| **Beta-hemolytic *Streptococcus*** | (1 patient) | 0 | 1 |
| **TOTALS:** | **102 patients** | **52 patients** | **50 patients** |

[†] Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

## STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.[‡]
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

[‡] The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

# TEGOPEN®
## (cloxacillin sodium)
## –effective therapy for staph infections of the skin and skin structures

---

**WARNING:**

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

**PRECAUTIONS:**

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

**ADVERSE REACTIONS:**

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

**USUAL DOSAGE:**

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

*N.B.:* INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

**SUPPLIED:**

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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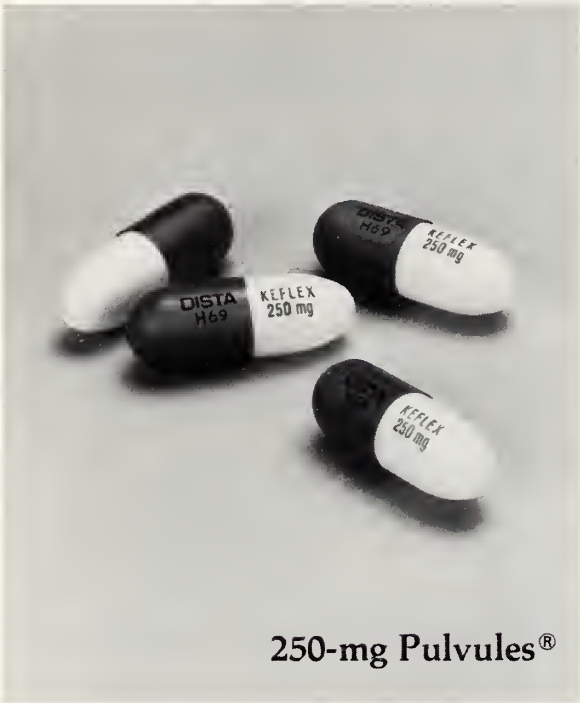

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Each prolonged action tablet contains:

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| Phenylephrine Hydrochloride | 25 mg |
| Phenylpropanolamine Hydrochloride | 50 mg |
| Chlorpheniramine Maleate | 8 mg |
| Hyoscyamine Sulfate | 0.19 mg |
| Atropine Sulfate | 0.04 mg |
| Scopolamine Hydrobromide | 0.01 mg |

Ru-Tuss Tablets act continuously for 10 to 12 hours.

Ru-Tuss Tablets are an oral antihistaminic, nasal decongestant and anti-secretory preparation.

**INDICATIONS AND USAGE** Ru-Tuss Tablets provide relief of the symptoms resulting from irritation of sinus, nasal and upper respiratory tract tissues. Phenylephrine and phenylpropanolamine combine to exert a vasoconstrictive and decongestive action while chlorpheniramine maleate decreases the symptoms of watering eyes, post nasal drip and sneezing which may be associated with an allergic-like response. The belladonna alkaloids, hyoscyamine, atropine and scopolamine further augment the anti-secretory activity of Ru-Tuss Tablets.

**CONTRAINDICATIONS** Hypersensitivity to antihistamines or sympathomimetics. Ru-Tuss Tablets are contraindicated in children under 12 years of age and in patients with glaucoma, bronchial asthma and women who are pregnant. Concomitant use of MAO inhibitors is contraindicated.

**WARNINGS** Ru-Tuss Tablets may cause drowsiness. Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers.

**PRECAUTIONS** Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucoma, or urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See Warnings).

**OVERDOSAGE** Since the action of sustained release products may continue for as long as 12 hours, treatment of overdoses directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time. Saline cathartics are useful for hastening evacuation of unreleased medication. In children and infants, antihistamine overdosage may produce convulsions and death.

**ADVERSE REACTIONS** Hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis, and thrombocytopenia may occur. Other adverse reactions to Ru-Tuss Tablets may be drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerotomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervousness, dizziness and insomnia. Large overdoses may cause tachypnea, delirium, fever, stupor, coma and respiratory failure.

**DOSAGE AND ADMINISTRATION** Adults and children over 12 years of age, one tablet morning and evening. Not recommended for children under 12 years of age. Tablets are to be swallowed whole.

**HOW SUPPLIED:**

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|---|---|
| Bottles of 100 Tablets | NDC 0524-0058-01 |
| Bottles of 500 Tablets | NDC 0524-0058-05 |

Federal law prohibits dispensing without prescription.

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## RU-TUSS®

### Expectorant

**DESCRIPTION**

Each fluid ounce of Ru-Tuss Expectorant contains.

Codeine Phosphate
(WARNING: MAY BE HABIT FORMING)
Phenylephrine Hydrochloride
Phenylpropanolamine Hydrochloride
Pheniramine Maleate
Pyrilamine Maleate
Ammonium Chloride
Alcohol

Ru-Tuss Expectorant is an oral antitussive, antihistaminic, nasal decongestant anc
torant preparation.

**INDICATIONS AND USAGE** Ru-Tuss Expectorant is indicated for symptomatic relief
respiratory congestion associated with pharyngitis, tracheitis, bronchitis, and aller
tis. Also, for the temporary relief of symptoms associated with hay fever, allergic
congestion and cough due to the common cold

**CONTRAINDICATIONS** Hypersensitivity to antihistamines. Concomitant use of
hypertensive or antidepressant drug containing a monoamine oxidase in
contraindicated

Ru-Tuss Expectorant is contraindicated in patients with glaucoma, bronchial ast
in women who are pregnant

**WARNINGS** Ru-Tuss Expectorant contains codeine phosphate, therefore, the patie
be warned of the potential that this drug may be habit forming. Ru-Tuss Expecto
cause drowsiness. Patients should be warned of the possible additive effect c
taking antihistamines with alcohol, hypnotics, sedatives and tranquilizers

**PRECAUTIONS** Patients taking Ru-Tuss Expectarant should avoid driving a motor v
operating dangerous machinery (See Warnings). Caution should be taken with
having hypertension, diabetes, hyperthyroidism and cardiovascular disease
Caution should also be used in patients with pulmonary, hepatic or renal insuffic

**ADVERSE REACTIONS** Ru-Tuss Expectorant may cause drowsiness, lassitude, g
dryness of mucous membranes, tightness of the chest, thickening of bronchial se
urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertensi
ness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydrio
stomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epig
tress, hyperirritability, nervousness, and insomnia. Overdoses may cause rest
excitation, delirium, tremors, euphoria, metabolic acidosis, stupor, tachycardia c
convulsions.

**DOSAGE AND ADMINISTRATION** Adults: 1 or 2 teaspoonfuls, orally, every 4 hou
exceed 10 teaspoonfuls in any 24-hour period

Children 6 to 12 years of age: ½ the adult dose, not to exceed 6 teaspoonfu
24-hour period. Children 2 to 6 years of age: ½ teaspoonful every 4 hours
exceed 3 teaspoonfuls in any 24-hour period. Children under 2 years of age
directed by a physician.

**HOW SUPPLIED:** (16 fl. oz.)

| | |
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| Pint Bottles | NDC 0524 |

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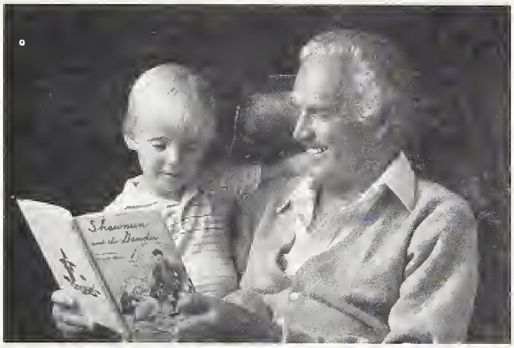

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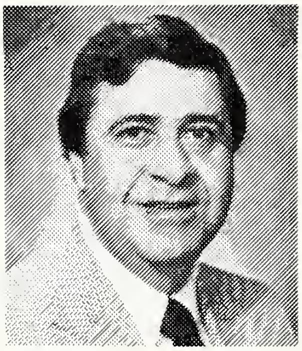

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# Racial Factors in Coccidioidomycosis: Mortality Experience in Arizona

## A Review of the Literature

William M. Johnson, M.D., M.P.H.

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**Abstract**

The mortality from coccidioidomycosis in Arizona from 1959 to 1975 is examined according to race, sex, and age. The following relative mortality risks were obtained comparing race-specific mortality rates in whites according to the racial distribution of the 1970 Arizona census: whites, 1.0; Mexican-American, 0.5; blacks, 5.7; and Indians, 2.0. Differences in racial incidence of dissemination and mortality risk have been attributed to differences in genetic constitution, and to differences in environmental and occupational exposures to dust in endemic areas. Studies of military personnel, hospital cases, and cases following a dust storm support an increased susceptibility among blacks and Filipinos, although in selected instances high dose occupational exposures may be the most important risk factor.

**Introduction**

The increased incidence of dissemination coccidioidomycosis following primary coccidioid infection in non-white races compared to whites widely accepted. Differences in racial incidence dissemination and mortality risk have been attributed differences in genetic constitution and to differences environmental exposures to dust in endemic areas. The issue of racial susceptibility to coccidioidomyco has been debated.[3-8]

The purpose of the present report is to examine tl Arizona experience in mortality from coccidioidom cosis for the period of 1959 to 1975, and to review tl literature examining race as a risk factor in morbidi and mortality from coccidioidomycosis.

**Methods**

The Arizona Department of Health Services provid copies of death certificates for 212 Arizona residen who died from 1959 through 1975, wi coccidioidomycosis coded as the primary cause of deat Data including age, sex, race, date of death, place death; underlying and other diseases were obtain from the death certificates. Mexican-Americans we defined as individuals with Spanish surnames parents' surnames.

Hospital and autopsy records were reviewed for mo deaths from 1968 to 1975; this mortality experien with an analysis of underlying diseases and the use immunosuppressant therapy was reported previously the Third International Coccidioidomycos Symposium.[9]

**Results**

Table 1 shows coccidioidomycosis deaths according race. A total of 212 deaths were coded coccidioidomycosis as the primary cause of death fro 1959 to 1975. Distribution of the deaths by race ethnic origin revealed 139 whites, 18 Mexica Americans, 33 blacks, 21 Indians and one Oriental. T 1970 Arizona population of 1,773,596 included 71.8 whites, 19.1% Mexican-Americans, 3.0% blacks, 5.4 Indians and 0.4% Orientals. According to the raci distribution of the 1970 Arizona census, the followi relative mortality risks were obtained comparing rac specific mortality rates to the mortality rates in whit during the period 1959 to 1975: whites 1.0, Mexica American 0.5, blacks 5.7, Indians 2.0, and Orientals 1. Table 1 also shows a comparison of the relative mortali risk from 1959 to 1967, and the risk from 1968 to 197 the relative risks of race-specific mortality rates duri the two periods were comparable.

Deaths were reviewed according to age and raci distribution (Table 2). Deaths among the India occurred predominantly in the young and elderl whereas among whites, deaths occurred predominant in the middle-aged and older adults. In contrast, deat among blacks were predominantly in the young a middle-aged adults.

In Table 3, deaths are reviewed according to race a sex. A definite male predominance occurred amo

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From: Dwight David Eisenhower Army Medical Center, Fort Gordon, Georgia 30905. Reprint requests to William M. Johnson, M.D., M.P.H., Pulmonary Disease Service, Dwight David Eisenhower Army Medical Center, Fort Gordon, Georgia 30905. The opinions or assertions contained herein are the private views of the writer and are not to be construed as official or as reflecting views of the Department of the Army and the Department of Defense.

### Table 1
### Relative Coccidioidomycosis Mortality Risk by Race

| | 1970 | | 1959-1967 | | 1968-1975 | | 1959-1975 | |
|---|---|---|---|---|---|---|---|---|
| ce | Population | Percent of Population | Number of Deaths | Relative Risk | Number of Deaths | Relative Risk | Number of Deaths | Relative Risk |
| ite | 1,273,626 | 71.8 | 58 | 1.0 | 81 | 1.0 | 139 | 1.0 |
| xican-<br>erican | 339,349* | 19.1 | 7 | 0.5 | 11 | 0.5 | 18 | 0.5 |
| ck | 58,436 | 3.0 | 15 | 6.2 | 18 | 5.3 | 33 | 5.7 |
| ian | 95,816 | 5.4 | 9 | 2.1 | 12 | 2.0 | 21 | 2.0 |
| iental | 7,525 | 0.4 | 1 | 2.9 | 0 | 0.0 | 1 | 1.2 |
| her | 3,848 | 0.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| tal | 1,773,596 | 99.9 | 90 | | 122 | | 212 | |

anish Heritage

### Table 2
### Deaths from Coccidioidomycosis According to Age and Race, 1959-1975

| e | White | Mexican-American | Black | Indian | Oriental | Total |
|---|---|---|---|---|---|---|
| | 1 | 0 | 0 | 3 | 0 | 4 |
| | 0 | 3 | 0 | 5 | 0 | 8 |
| 4 | 4 | 0 | 1 | 1 | 1 | 7 |
| 29 | 8 | 4 | 10 | 0 | 0 | 22 |
| 44 | 30 | 2 | 14 | 2 | 0 | 48 |
| 59 | 36 | 5 | 5 | 1 | 0 | 47 |
| 74 | 47 | 3 | 3 | 5 | 0 | 58 |
| | 13 | 1 | 0 | 4 | 0 | 18 |
| tal | 139 | 18 | 33 | 21 | 1 | 212 |

### Table 3
### Deaths From Coccidioidomycosis According to Race and Sex, 1959-1975

| Sex | White | Mexican-American | Black | Indian | Oriental | Total |
|---|---|---|---|---|---|---|
| Male | 90 | 10 | 22 | 13 | 1 | 136 |
| Female | 49 | 8 | 11 | 8 | 0 | 76 |
| Total | 139 | 18 | 33 | 21 | 1 | 212 |
| Male-Female Ratio | 1.84:1.0 | 1.25:1.0 | 2.0:1.0 | 1.63:1.0 | - - - | 1.79:1.0 |

ites, blacks and Indians, with male-female sex ratios 1.8 to 1.0, 2.0 to 1.0, and 1.6 to 1.0, respectively.

Table 4 shows the number of coccidioidomycosis aths according to race and year of death. The number deaths among Indians was generally stable at one to o deaths per year. Among whites, less than ten deaths ear occurred from 1959 to 1973. However, in 1974, 13 aths among whites occurred; and in 1975 a total of 28 aths occurred, a marked increase from previous years. mpared to other races, the marked increase in deaths ong whites in 1974 to 1975, particularly 1975, was associated with both an increasing number of post-operative and immunosuppressant-related deaths. These findings in 1974 and 1975 were previously reported.[9]

## Discussion and Review of the Literature

An increased incidence of cases and deaths from coccidioidomycosis in non-white races compared to whites has been reported in many studies; an analysis of selected studies, according to year of publication and racial distribution, is given in Table 5.

The first two cases of coccidioidomycosis reported in the United States were published in 1896.[10] Two dark-skinned Portuguese manual laborers who were natives of the Azores and had worked in the San Joaquin Valley of California presented with dissemination including progressive cutaneous lesions.

In 1929, Cummins et al. reviewed the racial background of 182 cases.[11] Among a total of 108 deaths, 12 occurred among blacks, 12 deaths among Mexicans, and five deaths among Filipinos.

In 1935, Sorsky and Nixon reported ten cases of

### Table 4
### Deaths From Coccidioidomycosis
### By Year and Race, 1959-1975

| Year | White | Mexican-American | Black | Indian | Oriental | Total | Population | Rate* |
|---|---|---|---|---|---|---|---|---|
| 1959 | 4 | 0 | 1 | 1 | 0 | 6 | 1,261,000 | 0.5 |
| 1960 | 7 | 1 | 1 | 2 | 0 | 11 | 1,302,161 | 0.8 |
| 1961 | 5 | 1 | 6 | 1 | 1 | 14 | 1,407,000 | 1.0 |
| 1962 | 8 | 3 | 1 | 1 | 0 | 13 | 1,471,000 | 0.9 |
| 1963 | 7 | 1 | 2 | 1 | 0 | 11 | 1,521,000 | 0.7 |
| 1964 | 6 | 0 | 2 | 0 | 0 | 8 | 1,556,000 | 0.5 |
| 1965 | 7 | 0 | 1 | 0 | 0 | 8 | 1,584,000 | 0.5 |
| 1966 | 5 | 1 | 1 | 2 | 0 | 9 | 1,614,000 | 0.6 |
| 1967 | 9 | 0 | 0 | 1 | 0 | 10 | 1,646,000 | 0.6 |
| 1968 | 5 | 1 | 4 | 4 | 0 | 14 | 1,682,000 | 0.8 |
| 1969 | 9 | 2 | 3 | 1 | 0 | 15 | 1,737,000 | 0.9 |
| 1970 | 6 | 1 | 1 | 0 | 0 | 8 | 1,773,596 | 0.5 |
| 1971 | 7 | 0 | 1 | 2 | 0 | 10 | 1,869,000 | 0.5 |
| 1972 | 5 | 0 | 1 | 1 | 0 | 7 | 1,963,000 | 0.4 |
| 1973 | 8 | 0 | 2 | 1 | 0 | 11 | 2,073,000 | 0.5 |
| 1974 | 13 | 6 | 5 | 1 | 0 | 25 | 2,160,000 | 1.2 |
| 1975 | 28 | 1 | 1 | 2 | 0 | 32 | 2,224,000 | 1.4 |
| Total | 139 | 18 | 33 | 21 | 1 | 212 | | |

*Deaths per 100,000 estimated mid-year population

Mexican descent among 18 cases of coccidioidal granuloma diagnosed at the General Hospital of Fresno County.[12] The disease occurred most commonly among laborers in fruit orchards.

In 1936, Abbott and Cutler reported one Filipino, three Mexicans, and one Chinese among seven autopsied cases of coccidioidomycosis with intracranial involvement studied at the Los Angeles General Hospital.[13]

Gifford et al. examined the relative risk of coccidioidal granuloma according to race from morbidity and mortality data in Kern County, California from 1901 to 1936.[14] Sixty-four deaths from coccidioidomycosis were recorded for this 36-year period in a county with a 1930 population of 82,750 (Table 6). Twelve deaths among Filipinos from 1901 to 1936 and a 1930 census of only 223 Filipinos were used in rate calculations projecting that Filipinos were 192 times more likely to suffer death from coccidioidomycosis compared to whites. Sixty-eight (46 percent) of the total of 147 cases had resided in Kern County for less than two years, and most of the cases occurred among the 25 to 44 age group. The authors cautioned that the increased incidence of coccidioidal granuloma among Filipinos, Mexicans and blacks compared to whites might be accounted for by differences in degree and extent of exposure to soil dust. It is apparent that the number of cases, deaths, and the size of the denominator populations among the Filipinos, Japanese, Chinese, and Indians are too small to permit exact interpretation about relative risk.

In 1938, Dickson and Gifford emphasized that infection with *Coccidioides immitis* was common in the San Joaquin Valley of California.[15] The disease was mild in most patients, and the majority of individuals recover
without complications. In relatively few patients, th
condition progressed or disseminated to a disea
referred to as coccidioidal granuloma with its hig
fatality rate. The name coccidioidomycosis w
suggested to include all types of infection with *C. immit*

World War II provided an opportunity to study th
epidemiology of coccidioidomycosis because of th
migration of military personnel to endemic areas f
training and assignment to air bases. In 1944, L
reported that the dissemination of coccidioidomycos
was 100 times as likely to occur in the colored as th
white soldier.[16] Smith et al. reported the experiences
three Army air fields in California from 1941 to 1945
Dissemination occurred in 4 of 34 clinically recognize
cases among blacks, compared to 8 of 710 cases amon
white males. Willett and Weiss reported similar findin
at March Field in southern California.[18]

Forbus and Besterbreurtje reported 48 blacks and o
Filipino among 95 cases of disseminat
coccidioidomycosis accumulated at the Army Institute
Pathology between 1941 and 1946.[19] Jamison report
that seven of nine fatal disseminated cases occurred
blacks at the Army Air Base Regional Hospital in San
Ana, California.[20] In 1949, Norman and Lawler report
one of two fatalities was black among nine cases
coccidioidomycosis over a two-year period at the U.
Naval Hospital in San Diego.[21] O'Leary and Cur
reported eleven blacks among a total of 100 patie
with coccidioidomycosis who were hospitaliz
consecutively at Fitzsimons Army Hospital in Denv
Colorado from 1948 to 1956.[22] Three of a total of fo
fatal cases of disseminated disease occurred in black

### Table 5
### Selected Reports of Coccidioidomycosis
### Number of Cases and Deaths According to Race

| e | | White | Black | Mexican-American | Filipino | Chinese | Japanese | American Indian | Other | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| erence | Cases or Deaths | | | | | | | | | |
| mmins et al., 1929[11] | Cases | 58 | 23 | 49 | 17 | 4 | 7 | 0 | 24 | 182 |
| sky & Nixon, 1935[12] | Cases | 3 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 18 |
| ott & Cutler, 1936[13] | Deaths | 2 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 7 |
| ford et al., 1936-1937[14] | Cases | 59 | 24 | 20 | 32 | 5 | 1 | 2 | 4 | 147 |
| | Deaths | 20 | 14 | 10 | 12 | 3 | 1 | 1 | 3 | 64 |
| bus & Besterbreurtje, 1946[19] | Cases | 37 | 48 | 2 | 1 | 1 | 0 | 1 | 5 | 95 |
| ison, 1946[20] | Deaths | 2 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| ntington, 1959[23] | Deaths | 17 | 35 | 5 | 4 | 0 | 0 | 0 | 2 | 63 |
| ntington et al., 1967[24] | Deaths | 47 | 65 | 11 | 16 | 0 | 0 | 0 | 3 | 142 |
| n et al., 1967[25] | Deaths | 5 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 11 |
| r & Larson, 1967[26] | Cases | 16 | 39 | 9 | 7 | 1 | 0 | 0 | 0 | 72 |
| n, 1967[29] | Cases | 23 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 31 |
| lear & Winn, 1967[30] | Cases | 5 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 10 |
| ale & Waechter, 1970[31] | Deaths | 1 | 4 | 2 | 1 | 0 | 0 | 0 | 1 | 9 |
| dill et al., 1970[32] | Cases | 4 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 9 |
| er et al., 1976[33] | Cases | 3 | 4 | 1 | 0 | 0 | 0 | 2 | 0 | 10 |
| nson, 1977[9] | Deaths | 81 | 18 | 11 | 0 | 0 | 0 | 12 | 0 | 122 |
| pagianis & Crane, 1977[35] | Deaths | 140 | 50 | 27 | 12 | (..........3..........) | | 9 | 24 | 265 |
| n et al., 1979[40] | Cases | 84 | 10 | 4 | (...............6...............) | | | 0 | 2 | 115 |
| | Cases* | 9 | 5 | 0 | (...............1..............) | | | 0 | 1 | 16 |
| | Deaths | 4 | 3 | 0 | (...............0...............) | | | 0 | 1 | 8 |
| pagianis et al., 1979[5] | Cases | 169 | 26 | 17 | 3 | (..............15...........) | | | | 230** |
| | Cases* | 19 | 14 | 3 | 2 | (...............5............) | | | | 43 |
| pagianis et al., 1979[5] | Cases | 173 | 17 | 6 | 19 | (............10............) | | | | 225 |
| | Cases* | 4 | 4 | 0 | 4 | 0 | 0 | 0 | 1 | 13 |

Disseminated

1970 California Census: Whites, 66%; Spanish Surname, 23%; Black, 7%; Japanese 1%; Chinese, 0.9%.[5]

### Table 6
### Coccidioidal Granuloma, Kern County, California 1901-1936

| | Population 1930 | Number of Cases | Number of Deaths | Death Rate Per 100,000 | Relative Mortality Risk |
|---|---|---|---|---|---|
| te | 71,572 | 59 | 20 | 28 | 1 |
| ican | 7,117 | 20 | 10 | 140 | 5 |
| k | 2,139 | 24 | 14 | 654 | 23 |
| nese | 710 | 1 | 1 | 141 | 5 |
| ese | 388 | 5 | 3 | 773 | 28 |
| an | 372 | 2 | 1 | 269 | 10 |
| ino | 223 | 32 | 12 | 5,381 | 192 |
| er | 49 | 1 | 0 | 0 | 0 |
| not recorded | - - - | 3 | 3 | - - - | - - - |
| l | 82,570 | 147 | 64 | 178 | - - |

untington reported the incidence of fatal cidioidomycosis in an autopsy series from 1947 to 56 at Kern County General Hospital in Bakersfield, lifornia.[23] The incidence of fatal coccidioidomycosis in cks was ten times higher than in whites. Huntington ressed doubt whether the whites and blacks resented in the autopsy series differed markedly in ritional status, domestic crowding, and exposure to icultural dust.

Five papers presented at the Second Symposium on Coccidioidomycosis in December 1965 in Phoenix, Arizona provided data for an analysis about the complications of coccidioidomycosis according to race.[24-26,29,30] Huntington et al. reported an increased risk of fatal coccidioidomycosis in blacks and Filipinos among 142 deaths with autopsies.[24] Iger and Larson reported 72 cases with coccidioidal involvement of the bones,[26] including 20 cases previously reported.[27,28] Thirty-nine of the total of 72 cases occurred in blacks, and seven occurred in Filipinos. Two papers from California summarized in Table 5 reviewed meningitis according to race.[29,30]

In 1970, Smale and Waechter reviewed four deaths among blacks and one death of a Filipino in a total of nine deaths among 15 cases of disseminated coccidioidomycosis in pregnancy, which occurred between 1950 and 1967 at Kern County General Hospital in Bakersfield and Springville County Hospital.[31]

In 1970 Caudill et al. reported that five of a total of nine cases of coccidioidal meningitis at Wilford Hall Hospital Air Force Base in Texas occurred in non-whites.[32] Bayer et al. reported four blacks among ten cases of unusual syndromes of coccidioidomycosis who were hospitalized at Harbor General Hospital in Los Angeles County from 1968 to 1975.[33]

Several papers presented at the Third International Coccidioidomycosis Symposium in Tucson, Arizona in November 1976 provided information about the racial distribution of coccidioidomycosis.[2,9,34,35] Johnson reviewed coccidioidomycosis mortality in Arizona from 1968 to 1975.[9] An increased relative mortality risk for blacks and Indians compared to whites was comparable to the preceding 8-year period of 1959 to 1967 (Table 1). Over half the deaths from 1968 to 1975 were associated with underlying disease and/or immunosuppressant therapy. No Oriental deaths from coccidioidomycosis were reported from 1968 to 1975, despite the fact that 3,878 Chinese, 2,394 Japanese, and 1,253 Filipinos were recorded in the 1970 Arizona census.

Kelly et al. reported 12 non-white cases among a total of 22 cases of coccidioidal meningitis diagnosed during and after 1970 at Maricopa County General Hospital, Phoenix Indian Medical Center, and two private neurology practices in Phoenix, Arizona.[34] Pappagianis and Crane reported a total of 265 cases of coccidioidal meningitis from data supplied by physicians who cared for patients primarily in California and Arizona.[35] (Table 5)

Sievers reported on his long-standing studies of coccidioidomycosis in Southwestern Indians.[2,26,37] Among 44 Indians with disseminated coccidioidomycosis, 20 were known to have underlying conditions associated with compromised immunity.[2] Sievers reported that the increased mortality risk for Indians compared to whites was confined to those under five years of age and the elderly, a pattern apparent in the mortality data in Arizona presented by age and sex, in Table 4.

The relative mortality risk of 2.0 for Indians compared to whites in Table 1 is an underestimate of the true risk. Two-thirds of Arizona's Indian population resides in non-endemic areas in northern Arizona (Apache, Coconino, Navajo, and Yavapai counties), 89% of the state's population lives in endemic areas,[2] and relative mortality risk comparing Indians to whites is not age-adjusted. Sievers emphasized the importance environment compared to race in accounting for th increased mortality risk in Indians because; th prevalence of coccidioidin skin test reactivity, incidenc of disseminated coccidioidomycosis cases, an corresponding mortality rates were highest among th San Carlos Apaches.[2] The question of race as a ris factor in Indians was further complicated by variation i prevalence rates of coccidioidin skin test reactivity an dissemination rates between reservations in th endemic area.[38]

A severe dust storm in December 1977, which arose i an endemic area near Bakersfield, California, resulted i new cases of coccidioidomycosis in endemic and non endemic areas.[39] Flynn et al. reported an outbreak of 11 clinical cases of coccidioidomycosis in Sacrament County, an area of low endemicity, in the first si months of 1978.[40] Nine of 84 cases among whites an five of 19 cases among blacks resulted in disseminatio Williams et al. reported disseminated coccidioidomycosi in non-whites at the Naval Hospital in Lemoor California, an area of high endemicity, following th same storm.[41] Eight patients were white, and ten wer non-whites. Pappagianis et al. reported increased rat of dissemination in black and Filipinos among 230 cas of acute coccidioidomycosis from non-endemic areas following the same dust storm.[5] The authors als reported increased rates of dissemination in blacks an Filipinos at Lemoore U. S. Naval Air Station from 196 1977.[5]

As with the dissemination of coccidioidomycosi patients with chronic progressive pulmonar coccidioidomycosis have frequently been of a dar skinned ethnic background.[42,43] Winn recommende amphotericin B whenever a primary coccidioid infection was severe in a black or Filipino without tot regard to coccidioidal complement fixation titers.[44]

The issue of racial susceptibility to the morbidity ar mortality of coccidioidomycosis is comple Confounding variables such as differences in nutrition status, underlying disease, and environmental ar occupational exposures must be considere Coccidioidomycosis is increasingly recognized as opportunistic infection,[9,45] and the morbidity associat with coccidioidomycosis is increasing with th increasing numbers of patients receivin immunosuppressant drugs, migration of susceptib individuals into endemic areas, and the aging of th general population.[46] Size of the inoculum, or dose of *immitis*, may be associated directly with the prevalen and severity of clinical sequelae in certain occupation exposures.[47]

Racial and ethnic differences in susceptibility coccidioidomycosis are consistent with emergi scientific knowledge that major histiocompatibili complex (MHC) genes are important in cell-mediat immune responsiveness and disease susceptibility.[48,4

## mmary

Studies of military personnel, reports of hospital-
sed cases, and recent reports of cases following a dust
rm consistently support an increased susceptibility to
e clinical complications and dissemination of
ccidioidomycosis among blacks compared to whites,
hough in selected instances high dose occupational
posures may be an important risk factor. In general,
e literature does not support an increased
sceptibility among Mexican-Americans. It is not clear
at Orientals are generally at increased risk of
semination, although several studies support an
reased risk among Filipinos.

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*Seminars in Dermatology*

# Verrucous Carcinoma of the Foot

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Editors:
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## Abstract

A case of advanced verrucous carcinoma of the foot is presented. The etiology and treatment of this tumor is discussed, including the role of x-ray irradiation of the lesion as an etiological factor. A brief review of the literature is included.

## Introduction

The term "Verrucous Carcinoma" was first coined, i 1948, by Ackerman[1] who described a type of carcinom affecting the epithelial oral mucosa. This term was late applied to similar lesions of the plantar aspect of the foo by Brownstein and Shapiro.[2] The lesion was previousl reported as "Epithelioma Cuniculatum Plantare" by Air et al.[3], "Papillomatosis Cutis" by Gottron[4] an "Papillomatosis Cutis Carcinoides" by Stevanovic[5] an Nikolowski.[6] Aird first described the lesion under th term "Epithelioma Cuniculatum" denoting tumor c epithelial origin which morphologically resemble cuniculatum burrows of rabbits.

The lesion, which appears on the plantar aspect of th foot, is of varying size, with foul smelling crypts fille with keratin and pus. The condition has been describe in other areas of the body where it is encountered mor often. The pan-oral and genito-gluteal areas have bee reported widely in the literature.[1,7-10] The oral lesion have been associated with tobacco chewing and have th potential for metastasis as well as anaplasti transformations following irradiation.[11] These are mor aggressive than the lesions found in the foot.

Verrucous carcinoma of the foot is usually treated a an intractable plantar wart for many years before th correct diagnosis is made. The lesion is locally invasiv at many times it may involve the deep structures of th foot and bone. Metastasis has not been reported so fa The differential diagnoses include: giant plantar benig

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ruca, basal cell carcinoma, amelanotic melanoma, rine poroma, keratoacanthoma, pseudocarcinoma- is hyperplasia, and pyogenic granuloma.[12]

### eatment

3iopsy is frequently inadequate and may in fact delay imal definitive treatment. One must either do a deep isional biopsy or remove the whole lesion (preferably) en the clinical diagnosis is made.[19] When a lesion is iically recognized as a verrucous carcinoma, gressive wide excision is apparently the most effective atment. Mohns and Sahl[18] described a chemosurgical hnique for excision of the mass. Frozen sections of margins may delineate accurately the extent of section necessary for complete excision. Split ckness grafts, rotation flaps, or cross leg flaps may be icated, depending upon the location and extent of the ndition. In locally invasive tumors which involve the ep structures of the foot and bone, amputation may be treatment of choice. The oral mucosal variety of rucous carcinoma suggests that radiation therapy is nost always contraindicated. It may lead to anaplastic nsformation of the lesion followed by a much more gressive and rapid development with great risks to the ient.[11]

### ology

Aird hypothesized that these lesions were originally n-metastasizing squamous cell carcinomas which re affected by weight bearing and a profound increase keratinization. He believes that the lesions originated the basis of pre-existing leukoplakia-like changes. He ects the theory of plantar warts preceeding the velopment of verrucous carcinoma because of the sence of inclusion bodies. Brownstein and Shapiro,[2] in eir series on verrucous carcinoma, observed that ost tumors were thought to have begun as plantar rts" and, as such, were subject to different nservative modalities of treatment including paring, d, electrodessication, radiotherapy, etc. Thorne[3] scribed a lesion initially diagnosed and treated as a ntar wart; treated, among other things, by curretage d irradiation. Later, it was diagnosed as epithelioma niculatum. Schwartz[14] postulated the theory of lignant transformation of pre-existing plantar viral rts.

There are two cases of verrucous carcinoma reported which the DNA genome of papilloma virus was calized and identified. What prompted the nsformation of the otherwise benign lesion is not own. Goette[15] described a case of verruca vulgaris of nail bed of the finger with carcinoma *in situ*. He ggested the possibility of oncogenic transformation of papovavirus, which is the etiologic agent of the mmon wart. The oncogenic properties of the povavirus were substantiated and described in cases epidermodysplasia verruciformia[16] and in giant ndyloma accuminata.[17]

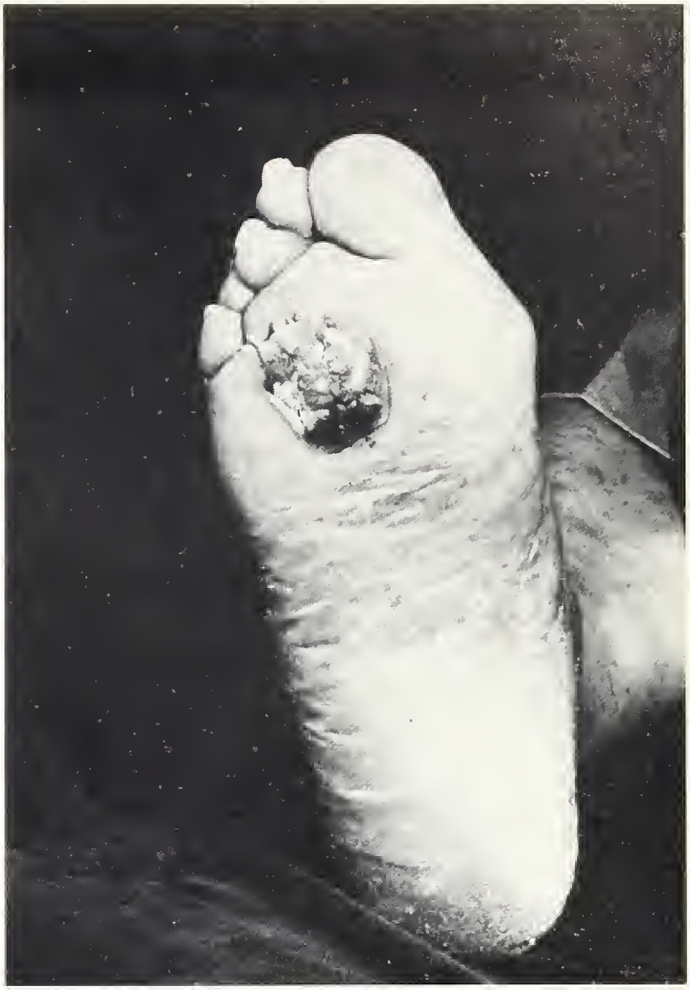

Figure 1A
Localized lesion, plantar aspect, area sub second, third and fourth metatarsal heads.

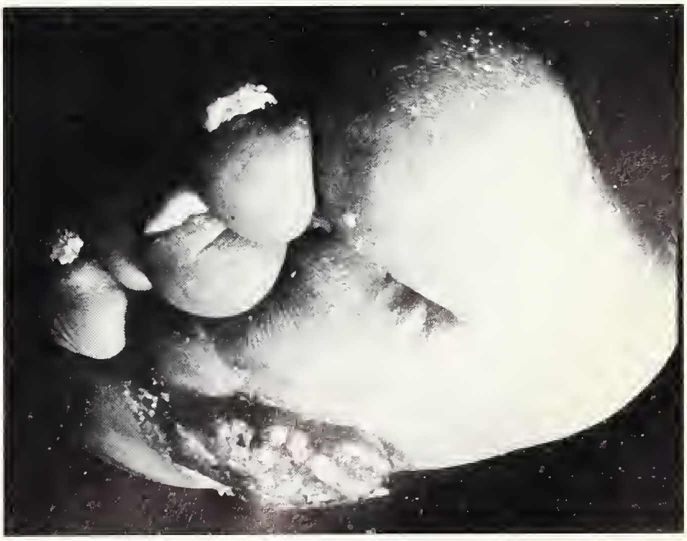

Figure 1B
Axial view of same lesion showing protrusion plantarly.

## Case Report

A 67-year-old Mexican-American man was seen initially at the Life Support Unit of the VA Medical Center, Tucson, Arizona, with a complaint of a large ulcer under the right foot.

The patient related a recent increase in the size of the ulcer, with frequent hemmorrhage and foul odor. This was accompanied by an appreciable increase in symptoms with pain radiating proximally towards the leg, severely limiting ambulation. Upon further questioning, the patient acknowledged the presence of the lesion for the last ten years. At that time, it was diagnosed as a plantar wart and was treated with, among other things, x-ray irradiation. No further information about the number of treatments or duration of exposure was available.

Medical history revealed the patient to have chronic obstructive pulmonary disease with a long history of smoking, high blood pressure, one episode of chest pain treated with nitroglycerin and an old inferior wall myocardial infarction at an undisclosed time. The patient denied having any allergies and was not taking any medications at this time. The family history was unremarkable.

Examination of the patient revealed a generally healthy man, slightly obese, who was well oriented to time and place. A fungating, pedunculated and slightly ulcerating mass approximately 6 x 6 cm in size and extending about 1 cm from the plantar aspect of the right foot was observed (Figure 1). The lesion was localized to the area under the third and fourth metatarsal heads. The center of the growth appeared to be ulcerating and was malodorous. The patient related that he had not received professional care in the past few years, but was soaking his foot a few times a week. The result of the history and physical examination was unremarkable. Laboratory studies upon admission were all within normal limits.

A clinical diagnosis of verrucous carcinoma was made. The patient was taken to the OR, where, under general anesthesia, a radical excision of the lesion was performed. At the time of surgery, there appeared to be no infiltration of the plantar fascia. A split thickness skin graft was obtained from the right thigh and was sutured into place. At the time of discharge, the patient appeared to have a complete take of the graft. He was discharged with no weight bearing on the right foot.

## Histopathology

The excised lesion is described as a neoplasm of squamous epithelium with hyperkeratotic and parakeratotic surfaces and with broad papillary downgrowth to the dermis. The epithelial cells exhibit abnormally high C:N ratios with multiple nucleoli in the nuclei and apparent vesicular chromatin pattern with numerous mitotic figures. The dermis adjacent to the tumor reveals an intense inflammatory process with plasma cells, eosinophils, and lymphocytes. Some dermal vessels disclose moderate to marked intimal proliferation resulting in some vessels being completely obliterated. The appearance suggests a chroni inflammatory process with tumor extension into th dermis.

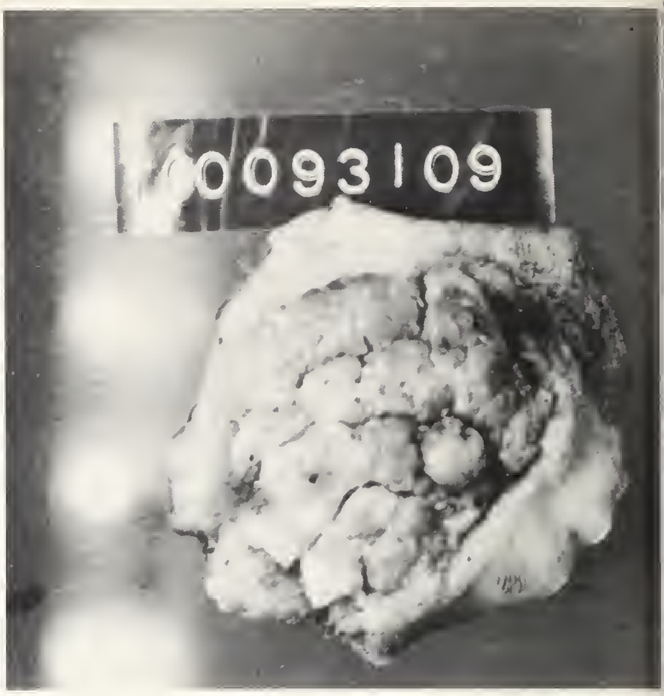

Figure 2
**Excised lesion showing the deep cavernous depressions an fissures. Note normal surrounding tissue.**

## Discussion

In reviewing the literature, several important factor are evident. Initially, almost all of the lesions wer diagnosed as plantar warts. Also, the customary therap for this condition was x-ray irradiation. The concept c neoplastic transformation of a benign plantar wart into carcinoma is supported by Perez's[11] observation an studies concerning the treatment of verrucou carcinoma of the oral cavity by irradiation.

We postulate that there will be an increase in th incidence of these lesions in the near future. This i based on the theory of the etiology and the length c time that is necessary for changes to take place wit irradiation therapy.

## Summary

A patient with epithelial squamous cell carcinoma verrucous carcinoma, of the plantar aspect of the foot i described. The histopathology and possible viral etiolog of this not-so-rare lesion are discussed.

## Acknowledgements

We are grateful to Dr. Ronald Hansen for hi comments and suggestions. We especially want to than the Medical Media Services of the Tucson Veteran Administration Medical Center.

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*Seminars in*
*Gastroenterology*
*and Liver Disease*

# Toxic Megacolon

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Although relatively infrequent, toxic megacolon is one of the most dreaded complications of inflammatory bowel disease. Toxic megacolon has been associated with other inflammatory conditions of the colon including ischemic colitis, various forms of infectious colitis, and pseudomembranous colitis. Nevertheless, the most common association has been with inflammatory bowel disease, especially ulcerative colitis. Toxic megacolon can probably be best defined as a severe attack of colitis associated with dilatation of the colon. The major criteria required to make the diagnosis include fever, tacychardia, leukocytosis, anemia, and of course, colonic dilatation. While toxic megacolon can

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occur at any time during the course of inflammatory bowel disease, it tends to occur most commonly during the early years of disease. In fact, approximately one quarter of patients with toxic megacolon have a history of symptomatic colitis of less than three months duration at the time of their presentation with toxic megacolon.

The etiology for toxic megacolon is unclear. However, it is most generally felt that transmural ulceration resulting in paralysis of the smooth colonic muscle precedes toxic dilatation. Use of narcotics and anticholinergics are felt to possibly play a contributing role in some cases. There have also been many reports of barium enema examination immediately preceding development of toxic megacolon. Hence, the use of these medications and timing of barium examination should be carefully considered in patients with suspected or known active inflammatory bowel disease.

Pathologically, deep colonic ulceration is probably the most important finding associated with toxic megacolon, aside from other features commonly seen associated with inflammatory bowel disease. This pathological feature probably relates to the high incidence of perforation occurring both spotaneously as well as during surgery.

The characteristic radiographic finding in toxic megacolon, as implied in its name, is dilatation of the colon, generally greater than 6 cm. Although dilatation is commonly seen in the transverse colon, this is most likely due to the fact that most plain films are obtained in the upright position. If plain films are done in the lateral position, dilatation may be just as commonly seen in the left or right colon. Other radiographic findings often seen include absence of haustral pattern, linear strips of gas in the bowel wall, mucosal serration, and free air. Barium enema is *not* required for the diagnosis of toxic megacolon. In fact, it is specifically contraindicated if this diagnosis is suspected.

The clinical features of toxic megacolon include fever, generally greater than 101°, tachycardia, pallor, and leukocytosis. Abdominal pain is generally not severe unless there is perforation. Diarrhea, which is a prominent feature of inflammatory colitis, may in fact improve associated with the development of toxic megacolon. Rectal bleeding is often present and occasionally extremely severe. There is often abdominal distention. Marked local abdominal tenderness often signifies localized peritonitis, perhaps secondary to walled off perforation. More generalized severe tenderness associated with peritoneal findings is indicative of free perforation. Laboratory findings associated with toxic megacolon include prerenal azotemia secondary to dehydration, often severe electrolyte imbalance, anemia, and hypoalbuminemia. Deep colonic ulcerations provide a portal for the development of sepsis, so blood cultures should be included in the evaluation of this problem. Sigmoidoscopy reveals the characteristic findings of inflammatory colitis. However, findings in the rectum may be relatively unimpressive, particularly if th patient has been recently treated with steroid enemas. must be emphasized that sigmoidoscopy should be don extremely gently, with examination limited to th rectum to avoid possible perforation. No preparation required. Fluid may be obtained at the time o proctoscopy for examination for ova and parasites a well as for bacterial cultures.

Treatment of toxic megacolon is best manage cooperatively by a surgeon and gastroenterologist. Th treatment includes nasogastric suction, fluid an electrolyte replacement, transfusions if indicated, an administration of albumin. In addition, antibiotics ar indicated, with a combination of probably a aminoglycoside and an agent effective agains anaerobes, e.g., Clindamycin or Metronidazole. Hig dose corticosteroids or ACTH given intravenously ar required. One of the most important aspects o management is frequent evaluation for improvement o deterioration. Immediate surgery is indicated if there evidence of free perforation or generalized peritoniti evidence of deterioration over a 24-hour period, massiv hemorrhage, or septic shock. Severe localized abdomin tenderness suggestive of a walled off or pendin perforation is probably also an indication for immediat surgery. Even without deterioration, an absence o clear-cut improvement over 48 to at most 72 hours, is a indication for proceding with surgery. There are tw major factors which favor early surgery in the absenc of clear-cut improvement. First of all, a higher mortalit is associated with colonic perforation. Furthermor most of the patients who are even fortunate enough t have a good response to medical therapy for tox megacolon require surgery in the near futur regardless. The three most commonly used procedure for toxic megacolon are total proctocolectomy wit ileostomy, diverting loop ileostomy and decompressiv "blow-hole" colostomy, and subtotal colectomy wit ileostomy and rectal mucus fistula. The last procedur subtotal colectomy with ileostomy and rectal mucu fistula is probably the most commonly used procedure. offers the advantage over total proctocolectomy b being an easier and quicker operation. It also leaves th rectum for possible future ileorectal anastamosi Diverting loop ileostomy with decompressiv colostomy, though a relatively quick procedure, associated with a moderately high incidence of colon perforation. Furthermore, when bleeding is a majo problem preoperatively, there is a fairly high incidenc of further significant hemorrhage postoperativel Nevertheless, in selected circumstances, this procedur may be a useful alternative.

Toxic megacolon is a severe life threatenin complication of inflammatory bowel disease whic requires meticulous management by the surgica medical team. Since mortality is greatly increased wit prolonged observation of deteriorating patients, earl surgery is often indicated and continued observation i the absence of improvement is to be avoided.

# adiation Carcinogenesis

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ederick Hecht, M.D.

**bstract**

A considerable body of information exists concerning e induction of neoplastic disease with radiation. The k of inducing cancer appears to be greatest with an termediate level of radiation and to decrease with erapeutic levels of radiation.

The events leading to cancer are incompletely nderstood. In experimental systems a neoplasm may velop after multiple events have occurred.

The initiating events in carcinogenesis are thought to point mutations or, in certain cases, chromosome anges such as deletions, duplications or translocations chromosome material. The point mutations and gross romosome aberrations may be caused by physical, emical or biological agents. These confer a neoplastic tential upon the cell which may be evoked by a omoting agent.

Among the physical agents known to induce malignancy, the best known is radiation.

## Levels of Radiation

For convenience, the radiation exposures to be discussed will be divided into three levels: 1) low dose, 2) intermediate dose, and 3) high dose.

Low dose radiation will pertain to exposure from nuclear weapons testing, nuclear reactors and at a slightly higher level diagnostic x-rays in medicine and dentistry.

Intermediate dose radiation will focus on exposure received in the past for benign conditions such as ankylosing spondylitis, as will be discussed below. The greatest body of information concerning human radiation carcinogenesis is found at this level.

High dose radiation will refer to the therapeutic radiation of neoplastic diseases.

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Table 1
Radiation and leukemia

| Condition for which radiation given | Average bone marrow dose | Excess leukemia cases per 10⁶ person-years per rad |
|---|---|---|
| Ankylosing spondylitis | 370 rads | 1-2 |
| Metropathia hemorrhagica | 134 rads | 1.2 |
| Cancer of the cervix | 500-1500 rads | None detected |

## Intermediate Level Radiation Studies

Chronologically, one of the earlier relationships analyzed in the intermediate radiation dose level concerned patients with ankylosing spondylitis.

*Ankylosing spondylitis:* Court-Brown and Doll in 1957 reported studies of over 14,000 patients who received orthovoltage radiation for ankylosing spondylitis of the spine.[1-3] The average bone marrow dose was calculated at 370 rads. They found an excess of leukemia of 1-2 cases per $10^6$ person-years per rad.

*Thymus radiation:* Another well-known group are children who received intermediate dose radiation for an "enlarged" thymus. The radiation aimed at the thymus also included the thyroid.[4] The average estimated dose to the thyroid was 119 rads. There was approximately 2.5 excess cases of thyroid cancer per $10^6$ patient-years per rad.

*I-131:* By contrast, a study was recently reported of 3,000 patients treated therapeutically with I-131.[5] The doses delivered to the thyroid ranged from a low of 6,000 to a high of 30,000 rads. No increase in malignant thyroid tumors was observed.

*Metropathia hemorrhagica:* In a study of over 2,000 women treated with radiation for metropathia hemorrhagica (the abnormal, excessive menstrual flow due to persistence of an exaggerated follicular phase), the average bone marrow dose was estimated at 134 rads for doses of 500 to 1000 rads delivered to the ovaries. The risk of leukemia was elevated with 1.2 excess cases of leukemia per $10^6$ patient-years per rad.[6] However, there was no increase in cancers of the ovary or bladder.

*Cancer of the cervix:* Over 30,000 women treated for cancer of the cervix with primary radiation therapy, were followed clinically and by laboratory studies.[7] No excess in leukemia or lymphoma was observed. The average bone marrow dose was between 500 and 1500 rads.

These data regarding radiation and leukemia are presented in Table 1.

## Explanation from the Laboratory

Turning to the laboratory for an explanation of these data, it is noted that the efficiency of mutation production increases as the dose of radiation increases. This increase continues to a point where the efficienc of mutation production peaks, then with a furthe increase in radiation the production of mutation declines. This is due to accumulation of sufficien mutations to cause death of the cell, thus removin these mutations from the population.

The same pattern is seen with the induction o myeloid leukemia in RF male mice.[8] The incidence o leukemia increases, peaks, and then decreases wit increasing doses of radiation.

## Low Level Radiation

Of greater difficulty is the calculation of risk from lo level radiation. This risk can be obtained b extrapolating from data such as those cited above. Th difficulty arises over the choice of relationship, e.g quadratic versus linear, to describe the relationshi between radiation dose and effect.[9] Relatively little i known about carcinogenesis from low level radiation.

## High Level Radiation

In general, high level radiation appears to have les carcinogenic effect than intermediate level radiatio There are examples, such as osteosarcoma occurrin after therapeutic radiation for retinoblastom However, this information must currently be viewe with caution, since the incidence of osteosarcoma increased in patients with retinoblastoma treated b surgery alone.[10]

## Summary

There is no question that radiation is carcinogeni The risk of inducing cancer with radiation: 1) appea greatest in the intermediate level of radiatio 2) decreases in the higher radiation range general utilized in contemporary radiation oncology, and 3) highly controversial in the low level region as to i relative effectiveness and whether or not a thresho exists.

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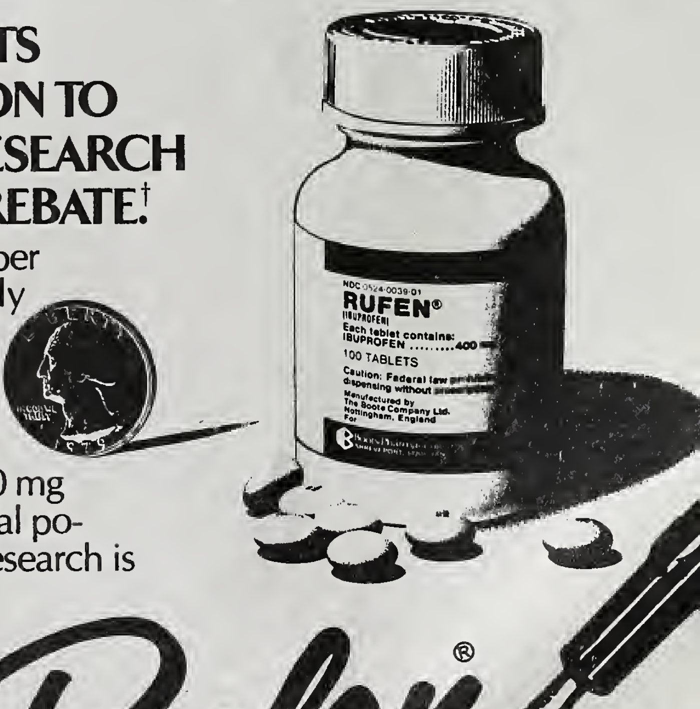

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been established for Functional Class IV rheumat
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Relief of mild to moderate pain.
**CONTRAINDICATIONS:** Patients hypersensitive
ibuprofen, or with the syndrome of nasal polyps, ang
edema and bronchospastic reactivity to aspirin or ot
nonsteroidal anti-inflammatory drugs (see WARNING
**WARNINGS:** Anaphylactoid reactions have occur
in patients hypersensitive to aspirin (see CONTRAIN
CATIONS). Peptic ulceration and gastrointesti
bleeding, sometimes severe, have been report
Peptic ulceration and gastrointestinal bleeding, som
times severe, have been reported. Peptic ulcerati
perforation, or gastrointestinal bleeding can end fata
however, an association has not been establish
Rufen should be given under close supervision to patie
with a history of upper gastrointestinal tract disea
and only after consulting the ADVERSE REACTIO
In patients with active peptic ulcer and active rheu
toid arthritis, nonulcerogenic drugs, such as g
should be attempted. If Rufen must be given, the pati
should be under close supervision for signs of ul
perforation or gastrointestinal bleeding.
**PRECAUTIONS:** Blurred and/or diminished visi
scotomata, and/or changes in color vision have been
ported. If developed, discontinue Rufen and adminis
an ophthalmologic examination.
Fluid retention and edema have been associated w
Rufen; caution should be used in patients with a hist
of cardiac decompensation.
Rufen can inhibit platelet aggregation and prol
bleeding time. Use with caution in patients with intrin
coagulation defects and those taking anticoagular
Patients should report signs or symptoms of gastr
testinal ulceration or bleeding, blurred vision or ot
eye symptoms, skin rash, weight gain or edema.
To avoid exacerbation of disease or adrenal ins
ficiency, patients on prolonged corticosteroid thera
this therapy should be tapered slowly when adding Ru
**DRUG INTERACTION:** *Coumarin-type anticoagula*
The physician should be cautious when administe
Rufen to patients on anticoagulants.
*Aspirin.* Concomitant use may decrease Rufen bi
levels.
**PREGNANCY AND NURSING MOTHERS:** Ru
should not be taken during pregnancy nor by nurs
mothers.
**ADVERSE REACTIONS**
**Incidence greater than 1%**
**Gastrointestinal:** The most frequent adverse react
is gastrointestinal (4% to 16%). Includes nausea*, epi
tric pain*, heartburn*, diarrhea, abdominal distre
nausea and vomiting, indigestion, constipation, abd
nal cramps or pain, fullness of GI tract (bloating
flatulence). **Central Nervous System:** dizziness*, he
ache, nervousness. **Dermatologic:** rash* (incluc
maculopapular type), pruritus. **Special Senses:** tinni
**Metabolic:** decreased appetite, edema, fluid retent
Fluid retention generally responds promptly to d
discontinuation (see PRECAUTIONS).
*incidence 3% to 9%.
**Incidence less than 1 in 100**
**Gastrointestinal:** gastric or duodenal ulcer with ble
ing and/or perforation, hemorrhage, melena. **Cen**
**Nervous System:** depression, insomnia. **Dermatol**
ic: vesiculobullous eruptions, urticaria, erythema m
forme. **Special Senses:** amblyopia (see PRECAUTIO
**Hematologic:** leukopenia, decreased hemogl
and hematocrit. **Cardiovascular:** congestive h
failure in patients with marginal cardiac funct
elevated blood pressure.
**Causal relationship unknown**
**Gastrointestinal:** Hepatitis, jaundice, abnormal l
function. **Central Nervous System:** paresthesias,
lucinations, dream abnormalities. **Dermatologic:**
pecia, Stevens-Johnson syndrome. **Special Sens**
Conjunctivitis, diplopia, optic neuritis. **Hematolo**
hemolytic anemia, thrombocytopenia, granulocytop
bleeding episodes. **Allergic:** fever, serum sickn
lupus erythematosus syndrome. **Endocrine:** gy
comastia, hypoglycemia. **Cardiovascular:** arrhythm
(Sinus tachycardia, bradycardia, and palpitatio
**Renal:** decreased creatinine clearance, polyuria, a
temia.
**OVERDOSAGE:** Acute overdosage, the stomach sh
be emptied. Rufen is acidic and excreted in the ur
alkaline diuresis may benefit.
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thritis and osteoarthritis, including flareups of chr
disease: Suggested dosage 400 mg t.i.d. or q.i.d.
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Neurology

# urgical Aspects of the reatment of Epilepsy uring Childhood and dolescence

ohn R. Green, M.D., F.A.C.S.
pichan Pootrakul, M.D.

ditors:
ames Frey, M.D.
arry Hendin, M.D.
awrence Stern, M.D.

During the thirty years that have passed since ublishing Indications for Surgical Therapy in Epilepsy *Arizona Medicine*,[1] one of us (JRG) has had surgical xperience with over one hundred and seventy-five ileptic patients, including fifty children and dolescents. Concepts, indications for surgical tervention, procedures, and long-term results have een reported periodically.[2-12]

The purposes of this presentation are to discuss iefly some current pathophysiological and medical eatment concepts about the epilepsies, to update our dications for surgical therapy, and to provide an counting of our results with surgical therapy in lected epileptic children and adolescents.

## Current Pathophysiologic Concepts

The concept that epileptic cortex may act as a source of noxious influences on the function and evolution of the normal brain was developed by Penfield.[13] The concept that an active epileptogenic focus continues to undergo pathologic changes[14] has been confirmed in monkey,[15] and in human.[16,17]

Another recent concept is that of "kindling," in which over a period of a few weeks permanent changes in seizure susceptibility can result from repeated, short, initially ineffective stimulation.[18] Thus, this condition not only provides a rationale for anticonvulsant therapy in post-traumatic encephalopathy but also may influence long-term prognosis.[19] These factors, among others, have prompted the *admonition*: "—the prudent strategy would appear to consist of aggressive medical therapy . . . for that period of time necessary to make the judgment in that patient in which a spontaneous remission is not likely to occur. To delay surgical therapy for long periods of time appears to carry the inevitable price of continuing neuronal damage in the vicinity of the focus."[19]

## Medical Treatment of the Epilepsies

Studies on the clinical efficacy of marketed antiepileptic drugs provided the estimate that seizures are completely controlled in more than 50% of the patients with epilepsy and that another 30%-40% are improved with additional drugs, although not without some side effects.[20]

A growing number of chronic complications of drug therapy, especially with the older drugs, is being recognized, i.e., folate deficiency in one-third, peripheral neuropathy in 10%-20%, and not infrequent changes in the connective tissue, liver, endocrine, immunological and mental function.[21]

Rodin[22] computed that 1.3% of epileptic patients die annually — five times the age-adjusted national death rate, and concluded that the "operative results from temporal lobe epilepsy seem to be definitely superior to medical treatment."

## Indications for Surgical Therapy in Epilepsy

Criteria, or guidelines, for the selection of epileptic patients for neurosurgical intervention have evolved gradually and now consist of the following considerations:

1. The clinical seizure pattern should indicate a discharging lesion or lesions in a localized, surgically accessible area of the brain-gyrus, lobe, or hemisphere.
2. Serial EEG, supplemented by special studies, should localize this epileptogenic area. Although there are some variations in opinion regarding the extent that special studies (such as sphenoidal EEG recordings during sleep, carotid amobarbital EEG and angiographic examinations, acute or chronic implanted electrode studies with radiotelemetry and videotaping of clinical seizures) should be utilized, it is essential that the localization be stable.

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om: Barrow Neurological Institute of St. Joseph's Hospital and edical Center, 350 West Thomas Road, Phoenix, Arizona 85013, esented as the Fifth Annual Sir William Osler Lecture, Osler Medical nter, Monterrey, Mexico, May 17, 1980, and with Management of mmon Neurological/Neurosurgical Problems Course, Arizona alth Sciences Center, Tucson, Arizona, October 17-18, 1980.

3. A cortical lesion should be suggested by history, neurological and neurophsychological examination and by neuroradiological studies as the cause of the seizures.

4. Intensive and methodical treatment with anticonvulsant drugs, monitored by verification of adequate blood levels of the drugs used, must be inadequate to stop the seizures and to provide the patient with normal and productive home, school and job adjustment. If the latter is not possible because of the drugged status of the patient, medical therapy should be considered as a failure even if the seizures are controlled.

5. The patient's physical status must be such that a major surgical procedure can be carried out without undue risk. His or her mental status should be documented and be adequate to allow a relatively normal life if the seizures can be eliminated. An IQ of less than 60 is usually considered to be a contraindication.

6. Children and adolescents, as with adults, must be completely willing to cooperate with the diagnostic and operative procedures if they are to be carried out successfully under local anesthesia. General anesthesia is adaptable to many operations for epilepsy in children and adolescents, including hemicorticectomy and temporal lobectomy.

7. In the event that an epileptic patient who is refractory to treatment also does not satisfy the localization and lateralization criteria so necessary for successful cortical excision, lobectomy or hemicorticectomy, consideration may be given to the indications for 1) stereotactic, 2) chronic cerebellar stimulation, or 3) commissurotomy procedures:

1) *Stereotactic amygdalotomy* has been used for children and adolescents with medically resistant psychomotor epilepsy associated with aggressive behavior and bitemporal epileptogenic area. Although the decrease in seizures and rate of rehabilitation are generally inferior to temporal lobectomy, the risks and complications are few. Stereotactic lesions have been placed in a wide variety of other subcortical structures without consistently good results.

2) *Chronic cerebellar stimulation to prosthetically induce Purkinje cell inhibition* and to modify abnormal neurological activity, including epileptic discharges, was applied at one time with very few good results and has been generally abandoned.

3) *Surgical division of the commissural pathways in the corpus callosum* may be considered in desperate problems with the hope to confine the seizure to one side, to preserve consciousness during the attack, to provide a warning so that the patient might take precautionary or control measures at the onset of the seizure, and to eliminate commissural contribution to mutual reenforcement of seizures during the generalized phase, especially during status epilepticus. A wide variety of disconnection deficits are apparent on special testing, but these patients have generally benefited from the standpoint of seizure control and present an essentially normal appearance.

### Risks and Results of Temporal Lobectomy, Hemicorticectomy and Other Cortical Excisions

1. *Temporal Lobectomy*

Three centers (London, Montreal, and Phoenix) have published the major reports on the subject of the surgical treatment of temporal lobe epilepsy — also called psychomotor epilepsy, limbic epilepsy, and partia seizures with complex symptomatology during childhood and adolescence. All agree that the long-term surgical results in this age population are even better than the results with adults and recommend earlier surgery in selected patients in order to avoid the sequelae of uncontrolled seizure, and drug intoxication One hundred and ten of 144 children and adolescents in the three reports are either seizure-free or abou seizure-free — 76.45%. Falconer[23] obtained excellen seizure control in 31 of 40 patients (77%), Rasmussen[2] had similar excellent results in 53 of 72 patients (73% and our experience with 32 children and adolescents with temporal lobectomies from 1949 to 1979 allowed 26 patients (81%) to become seizure-free or about seizure-free.[10-12]

Davidson and Falconer[23] noted that their best results regarding relief of seizures and normalization o behavior occurred if mesial temporal sclerosis was encountered in the epileptogenic area. The pathology was found in 24 of 32 of our patients and in 24 of 26 patients who are now either seizure-free or almost so

Behavioral abnormalities may also be modified by temporal lobectomy if seizures are eliminated or greatly minimized so that anticonvulsant medications can be significantly reduced. Disturbing aggressiveness was noted in all except one patient in the London experience normalized in 20 and much improved in six — a significant improvement in 65%. Seventeen of these patients were found to have mesial temporal sclerosis Thirteen of our 28 children and adolescents were normal, 11 were assaultive and aggressive, three were retarded, and one showed emotional instability Following temporal lobectomy, the normals remained normal, seven of 11 aggressive and assaultive patient were normalized and two were significantly improved as was the patient with emotional instability — a remarkable improvement in 80%.

Two of our patients died during period of follow-up (1949-1981), but of causes that were unrelated to epilepsy, i.e., one from an astrocytoma and the othe from pulmonary tuberculosis. Three patients were mentally retarded and also had no chance of becoming independent and self-supporting. There was no operative fatality; one wound infection that cleared with treatment in three weeks, ten instances of aseptic meningitis (due to blood in the ventricles and associated with a febrile course for 3-10 days), three patients with transient (6 hours to 10 days) hemiparesis associated with temporal lobectomy, and four patients with nondisabling upper quadrantic homonymous visual field defects. Only one patient suffered a permanent defect — left hemiparesis and homonymous hemianopsia but she leading a normal life, free of seizures and medications, nd is independent.

Socioeconomic rehabilitation of children and dolescents following temporal lobectomy is the major bjective and 82.1% of 28 patients followed since 1949 e now independent and self-supporting.

2. *Hemicorticectomy*

Hemicorticectomy may be the operation of choice in hildren who develop unmanageable seizures in sociation with infantile hemiparesis. Freedom from izures or significant improvement following emicorticectomy for seizures due to infantile emiparesis has been reported to occur in an average of 4% of the patients. The majority of these patients, like ose with other epilepsy procedures, are continued on nticonvulsant medications, but in reduced dosages. ehavioral disorders are frequently associated and may ecome progressively more disabling. These disorders ay include mental retardation and, in some patients, xplosive, impulsive, aggressive, assaultive outbursts. ormalization or improvement of these outbursts ccurs in the majority of patients following emicorticectomy. Motor function is frequently nhanced following hemicorticectomy with elimination seizures and decrease in spasticity.

Our surgical experience with infantile hemiparesis, sociated with seizures, behavioral abnormalities and pasticity includes six patients who had emicorticectomies. Five children were relieved of izures and were improved regarding behavior and pasticity — 83.3%. The sixth child died as the result of ute pulmonary edema which suddenly occurred as the emicorticectomy was being completed.

The surgical mortality rate for hemicorticectomy has een reported to average seven percent in 500 such perations by various neurosurgeons. Superficial rebral hemosiderosis may affect a fourth to a third of ese patients who are followed for more than five ears, but this complication can usually be avoided if the ast epileptogenic lobe or area is not removed. This ndition may insidiously lead to neurologic eterioration, evidence of hydrocephalus and increased tracranial pressure and death. Prompt treatment with ntriculoperitoneal shunting is life-saving.

3. *Other Cortical Excisions for Epilepsy in Childhood and dolescence*

Epileptogenic lesions of childhood and adolescence, menable to surgery, are most commonly located in the emporal lobe, next most commonly in the frontal lobe, the central (sensorimotor) region, in the parietal lobe, nd most rarely in the occipital lobe.

Cortical excisions, other than temporal lobectomies nd hemispherectomies were done in other areas of the rain in ten patients, and no excisions were done in two atients. Our results in these instances are about the ame as reported by Rasmussen,[25] who described imination or significant reduction of seizures in 68% of ccipital excisions, 59% of parietal excisions, 57% of sensorimotor excisions, and 55% of frontal lobe excisions.

## Summary and Conclusions

1. Seizures are completely controllable in more than 50% of epileptic patients with current anticonvulsant medications and another 30%-40% may be improved with additional drugs although not without some side effects. The known hazards of long-term drug therapy and associated problems with social, educational, and economic normalcy are cogent reasons to consider surgery if medical therapy does not provide excellent results.

2. If medical control of seizures is not successful in allowing the individual to live an entirely normal life, it is recommended that appropriate studies be done to determine whether there are indications for surgical intervention. The criteria, or guidelines, for the selection of epileptic children and adults for surgical intervention are discussed.

3. The size, location, and particularly the completeness of the cortical excision of the epileptogenic area have been correlated with the effectiveness in controlling seizures, decrease or elimination of drugs, and rehabilitation. Published reports indicate that the following procedures have provided excellent to good results in percentages of patients listed: Hemicorticectomy — 84%; Temporal lobe — 77%; Occipital excisions — 68%; Parietal excisions — 59%; Sensorimotor excisions — 57%; Frontal excisions — 55%.

4. Elimination or significant reduction of seizures so as to allow elimination or considerable reduction of drugs has followed a social rehabilitation rate of 82.1% of children and adolescents for whom we did anterior temporal lobectomy for unmanageable psychomotor epilepsy during the period of 1949 to 1979. Similar results were obtained following hemicorticectomy with 83.3% of the patients with seizures, behavioral problems and spasticity due to infantile hemiparesis, and approximately 55% excellent to good results with cortical excisions in the epileptogenic areas elsewhere in the brain. There was one operative fatality (an early hemicorticectomy) in this experience with 50 epilepsy operations during childhood and adolescence and no wound infections.

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## *Oncology*

# A Review of the Antiemetic Use of Delta-9-Tetrahydrocannabinol and Prescribing Requirements

John V. Nyman, B.S.
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Editors:
David S. Alberts, M.D.
Ellen M. Chase, B.S.

### Introduction

In describing the advances achieved in the prognosi for patients afflicted with specific types of cancer (i.e Hodgkin's disease, leukemia, and testicular cancer considerable attention has been focused on th philosophy of utilizing innovative and increasingl aggressive multiple-drug treatment regimens Although such drug therapy has been shown to increas survival rate and possibly enhance quality of lif patients often experience drug-induced adverse effect which are so completely disabling that withdrawal o effective cancer chemotherapy is required. Frequentl severe nausea and vomiting are etiologic. Nausea an vomiting can occur with practically all of the cance chemotherapeutic agents, although certain agents, suc as cis-platin, dacarbazine, doxorubicin, methotrexat and cyclophosphamide appear to be associated wit greater emetic activity.

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From: University of Arizona Health Sciences Center (AHSC) and th University of Arizona College of Pharmacy, Mr. Nyman, Master Science candidate, Department of Pharmacy Practice, College Pharmacy; Mr. Fritz, Assistant Director, Department of Pharmacy an Supply, AHSC, Tucson, Arizona 85724. Reprint requests to Mr. Frit

Conventional antiemetic therapy using ochlorperazine or intravenous droperidol is generally ective in reducing the incidence and severity of usea and vomiting. However, many cancer patients ve had adverse reactions to phenothiazines (central rvous system [CNS], anticholinergic) and have also peared to be clinically refractory to these agents in rms of antiemetic activity. Thus, it is apparent that a ed exists to provide a select group of patients with an ernative antiemetic.

Anecodotal reports from young cancer patients eviously indicated a correlation of reduced nausea and miting with the act of smoking marijuana cigarettes or to cancer chemotherapy. This initiated an early nical trial conducted by Sallan and associates which monstrated a significant reduction in emetic activity compared to placebo.[1] Results indicated that oral lta-9-tetrahydrocannabinol (delta-9-THC), the ychoactive ingredient in marijuana, eliminated miting in 25% of the study patients and decreased the mber of vomiting episodes by one half in another %. Even though two patients (9%) in this study ported severe CNS side effects, the study successfully mulated renewed interest in the potential benefit of lta-9-THC.

*Cannabis sativa* refers to a species of plants containing veral hundred variants, each composed of different ncentrations of active and inactive cannabinols. nnabis is a collective term used to describe all of the logically active ingredients of the plant and includes rijuana, which refers to the leaves and the flowering p. The primary psychoactive cannabinol in marijuana delta-9-THC, although delta-8-tetrahydrocannabinol also present in small quantities and is also an active nstituent.[2] The THC concentration in marijuana oked in the United States is approximately 1%-5% pending on the resin and fiber content. The average rijuana cigarette weighs about 500 mg and thus ntains 5.25 mg of THC. Marijuana grown in Mexico d South America is similar in THC content to Hashish e resin obtained from the plant), containing 5%-15% HC.

**rug Disposition**

THC has been injected intravenously, ingested, and haled to produce its pharmacologic effects. The ravenous and inhaled routes are associated with a ore rapid effect and have a shorter duration of action an the oral route (Table 1).[4] Because of variable sorption from the gastrointestinal tract, it has been ggested that approximately two to three times the nount of THC is required orally to produce clinical fects similar to those resulting from inhalation.

Following a single dose, plasma levels of THC nerally decline rapidly after absorption due to stribution of the drug to the brain, liver, spleen, gall adder, and adipose tissue. This is followed by a more adual decline in serum levels as the drug is etabolized and eliminated from the body. Following a single dose of the THC, urinary excretion as hydroxylated metabolites accounts for 20%-30% of the absorbed dose during the first 24 hours, with continued metabolite excretion in the urine for more than one week. Fifty-five percent of the dose is excreted in the bile and is found in the feces within 72 hours. Negligible amounts are excreted unchanged.[5] The long plasma half-life (28 to 56 hours) results from the slow release of THC from storage compartments in the tissues (Table 2). Tolerance in chronic users and reverse tolerance due to accumulation have been reported and could affect the half-life of THC.

**Table 1**
**Onset and Duration of Pharmacologic Effects**

| Routes of Administration | Onset of Action (mins) | Maximal Observable Effect (mins) | Duration of Action (hrs) |
|---|---|---|---|
| Inhalation | 2-3 | 10-20 | 1½-2 |
| Ingestion | 30-60 | 120-180 | 2-5 |
| Intravenous | 1-3 | 10-30 | 1-2 |

**Table 2**
**Disposition of Oral THC**

| | |
|---|---|
| Absorption of Oral Dose | 15%-20% |
| Distribution | Brain, liver, lungs, adipose tissue |
| Protein Binding | 57% Lipoproteins, 40% Albumin |
| Volume of Distribution | 9 L/Kg |
| Half-Life | 28-57 hours |
| Metabolism | Less than 1% excreted unchanged |
| Elimination, Urine* | 15%-25% |
| Elimination, Feces* | 45%-55% |

*Within the first 7 days.

**Side Effects**

There have been numerous reports of dose-related side effects caused by THC (Table 3). They usually begin within 60 to 90 minutes and may have a duration of up to 24 hours. Most patients will experience a marijuana "high." This effect can be characterized by temporary mood changes (usually euphoria, laughing, relaxed feeling), enhanced awareness, mild distortions of time, and heightened auditory and visual sensations.[6,7] Sedation is the next most common side effect (80%), although patients are easily aroused. With larger doses (10-15 mg of THC) patients may experience dizziness, disorientation, headache, dysphoria, delirium, and muddled thinking. Toxic manifestations characterized by paranoid ideation, psychosis, fear, panic, visual hallucinations, and depersonalization have been reported with very large single doses of over 20 mg.[7]

Cardiovascular changes include hypotension, syncope, orthostatic hypotension, sinus tachycardia (100-120 beats/min.), and moderate increases in blood pressure. Interestingly, both a propranolol-reversed tachycardia and increased levels of norepinephrine have been demonstrated.

Somatic effects such as involuntary jerking movements of the musculature, loss of muscle strength, ataxia, dry mouth, fecal incontinence, enhanced perspiration, and congestion of the conjunctiva occasionally occur.

### Efficacy Studies

A number of studies have been reported demonstrating efficacy of THC in the treatment of nausea and vomiting (Table 4). Chang and coworkers evaluated THC as an antiemetic in a randomized, double-blind, placebo-controlled trial involving patients with osteogenic sarcoma who were receiving high-dose methotrexate.[8] Results indicate that THC was significantly more effective in reducing the incidence of nausea and vomiting than placebo. Patients receiving placebo reported the incidence of nausea and vomiting at 72%, while patients whose plasma THC concentrations measured less than 5.0 ng/ml, 5.0 ng/ml-10.0 ng/ml, and greater than 10.0 ng/ml stated that the incidence of nausea and vomiting was 44%, 21%, and 6%, respectively. Patients receiving THC also reported a reduced volume of emesis, duration of nausea, and degree of nausea. In these patients, THC was either administered orally at a dose of 10 mg/m$^2$ every three hours for a total of five doses or smoked as a cigarette. The inhalation route gave higher and more consistent blood concentrations. These investigators also demonstrated an association between the magnitude of the "high" and the decrease in incidence of nausea and vomiting. These results concur with those of Sallan[1] in that THC plasma concentrations appear to correlate with reduced emetic response.

A recent randomized, double-blind, crossover study conducted by Orr and associates,[9] compared the antiemetic effects of oral THC (7 mg/m$^2$ every four hours for four doses) with placebo and prochlorperazine (7 mg/m$^2$ every four hours IM for four doses). Nausea or emesis occurred in 15 of 55 patients (17.3%) receiving THC, 47 of 55 patients (85.5%) receiving prochlorperazine, and 50 of 55 (90.9%) in the placebo group. Interestingly, THC significantly reduced nausea induced by fluorouracil, cyclophosphamide, and doxorubicin ($P<0.05$), which is in contrast to preliminary observations cited by Chang and coworkers.[8]

Lucas and Laszlo in a recent article studied 53 patients treated with THC after experiencing severe and violent nausea and vomiting refractory to standard antiemetics.[6] These patients were administered oral THC doses of 5 mg/m$^2$ every four hours, starting 8 to 12 hours before therapy and continuing 24 hours after chemotherapy was completed. Although this study was neither randomized nor controlled, the results indicate a positive response with 19% of the patient experiencing no nausea or vomiting, 53% having a 50 or greater reduction of nausea and vomiting, and 28 having limited or no reduction of emetic response.

**Table 3**
**Adverse Reactions**

*Central Nervous System*
1. "High"—relaxed feeling, easy laughing, euphoria increased auditory sensations, altered perceptions
2. Sedation
3. Faintness, ataxia, peripheral paraesthesia, headache
4. Anxiety, confusion, hallucinations, delirium, paranoia (10 - 15 mg)
5. Toxic psychosis, depersonalization, loss of insight (20 - 70 mg)

*Cardiovascular*
1. Hypotension (orthostatic)
2. Syncope
3. Tachycardia (Greater than 100 beats per minute)
4. S-T segment and T-wave changes

*Autonomic*
1. Increased perspiration
2. Dry mouth, blurred vision
3. Difficulty in micturition

*Gastrointestinal*
1. Nausea, vomiting and diarrhea
2. Abdominal cramps

*Neuromuscular*
1. Loss of muscle strength
2. Involuntary muscles jerking
3. Decreased hand steadiness

Interestingly, the original THC dose was 15 mg/m orally every six hours, starting one hour befor chemotherapy and continuing for four successive doses However, because of intense sedation and acut psychotic reactions noted in the first nine patient treated with this regimen, the dosage schedule wa modified as stated above.

In a second article by Sallan and coworkers, THC wa compared to prochlorperazine (Compazine®) in randomized, double-blind, cross-over trial in patient who were refractory to standard antiemetic therapy.[1] The oral THC dosage was 10 mg/m$^2$, with a maximu single dose of 15 mg taken every four hours for thre doses. Results indicate an overall complete response t THC in 36 courses or 46% as compared to a 21 complete response rate with prochlorperazine. It shoul be noted that because of the authors' selection criteria o studying patients initially refractory t prochlorperazine, their results must be considere carefully. Of the complete responses to THC, 89% wer associated with a "high." Improved appetite, a evaluated by the patient, indicated an associatio between increased food intake and the occurrence of high in six out of 11 patients who were receiving THC Additionally, this study showed a strong patien preference (80%) for THC, with a very low (5%) overa

Table 4
Efficacy Studies

| rimary estigator ar) (Ref. No.) | No. of Patients Evaluated | Median Age | THC Dosage | Beneficial Response | % of Patients Discontinuing Study | Antiemetic Response Associated With a "High" |
|---|---|---|---|---|---|---|
| en (1975)[1] | 22 | 29.5 | 10 mg/m$^2$ q 4 hrs x 3 | 70% | 5% | 100% |
| ang (1979)[8] | 15 | 24 | 10 mg/m$^2$ q 3 hrs x 5 | 93% | 0 | 82% |
| tak (1979)[13] | 38 | 61 | 15 mg q 4 hrs x 3 | 42% | 32% | —— |
| rt (1979)[2] | 19 | 11 | 10 mg/m$^2$ x 5 doses | 71% | 3% | 6% |
| en (1980)[10] | 73 | 32.5 (mean) | 10 mg/m$^2$ q 4 hrs x 3 | 59% | 6% | 78% |
| as (1980)[6] | 38 | adults | 5 mg/m$^2$ q 4 hrs x 8 | 72% | 0 | 100% |
| (1980)[9] | 55 | 46 (mean) | 7 mg/m$^2$ q 4 hrs x 4 | 83% | 4% | most cases |
| ls (1980)[14] | 35 | adults | 12 mg/m$^2$ q 4 hrs x 3 | —— | 0 | —— |

cidence of side effects.

Frytak and colleagues recently reported on a andomized, double-blind trial comparing antiemetic ctivity of THC, prochlorperazine, and placebo in 116 lderly patients (median age, 61 years) receiving uorouracil (5-FU) and semustine (Methyl-CCNU) ancer chemotherapy for gastrointestinal carcinoma.[11] HC, 15 mg, prochlorperazine, 10 mg, or placebo were dministered orally two hours before and at two and ight hours after initiation of chemotherapy. On the llowing three days, a dose was given 30 minutes before ach meal. Comparison of the antiemetic effectiveness f these agents on Day I when both 5-FU and methyl-CNU were administered indicated that the THC was early superior to placebo in completely alleviating ausea and vomiting vs. 19% (nearly identical to rochlorperazine). On Days II-IV when only 5-FU was dministered, 72% of the patients who received ochlorperazine had no incidence of nausea or vomiting compared to 57% and 53% in patients receiving THC d placebo, respectively. The overall results of this udy showed no superiority of THC over ochlorperazine in contrast to other studies. It is also of terest that of the 14 patients who refused to continue e study because of intolerable CNS side effects, 12 ere from the THC-treated group. This represented % of the 38 patients assigned to the THC group. No rrelation could be established, however, between CNS de effects and THC serum levels. Futhermore, THC rum levels greater than 5.0 ng/ml were achieved in ly 26% of Frytak's patients as compared to 44% in the udy conducted by Chang and associates.[8] It was stulated that since Frytak's patients had strointestinal malignancies, they may have had impaired absorption of THC resulting in lower peak THC serum levels.

### Current Status and Prescribing Information

On September 16, 1980, the Food and Drug Administration (FDA) approved the National Cancer Institute's (NCI) guidelines permitting the use of THC as an antiemetic for cancer patients refractory to standard antiemetic therapy and a protocol for its distribution.[12] THC was classified as a Group C drug in the NCI's distribution system. Group C drugs are compounds which are not yet commercially available, but which have shown efficacy, can alter the pattern of care of the disease in question, and can be administered safely by properly trained physicians without requiring specialized supportive care facilities. THC is also a Schedule I Controlled Substance and, therefore, must be stored and distributed in adherence to the strict Drug Enforcement Agency (DEA) security and safety regulations.

Physicians must be approved by the NCI to prescribe THC. The following are criteria for eligibility. The physician shall:

1. Have documented clinical experience in cancer therapy.
2. Have a current DEA number. (Physicians need to have a Schedule I registration.)
3. Officially register with a participating pharmacy using the NCI Form FDA-1573 (Statement of Investigation).
4. Agree to report all unusual adverse effects immediately to the Drug Regulatory Affairs Section of NCI (Report Form 1639-a).
5. Agree to obtain informed patient consent.
6. Agree to limit THC prescribing to indicators set

forth in the NCI guidelines.

Physicians who express interest in participating in this program should contact a participating hospital pharmacy. Hospitals in the State of Arizona currently involved in distributing THC are St. Joseph's Hospital and Good Samaritan Hospital in Phoenix, and the Veterans Adminstration Medical Center and the University of Arizona Health Sciences Center in Tucson. The pharmacy department will supply the physician with an application (FDA-1573 Form) upon request. The completed and signed form should be returned to the hospital pharmacy which the physician intends to utilize for THC prescribing. The pharmacy will forward the original to the Drug Regulatory Affairs Section (DRAS) and retain a copy for its own files. The DRAS will review the application and inform the pharmacy of its decision. The pharmacy will then notify the physician of his eligibility status. This process normally should be completed within three to four weeks.

If the NCI rejects a physician's application, the NCI will contact the physician stating the basis for rejection. The physician may then challenge the NCI's decision and resubmit an application along with a written statement of rebuttal. The NCI will then review the application for final decision.

Once the application is approved, the pharmacy can supply the physician with the Group C Guidelines for the use of THC and several patient informed consent forms supplied by the NCI. The physician is then eligible to prescribe THC within the guidelines of the NCI and the participating pharmacy.

It should be noted that THC is indicated only for a therapeutic evaluation as an antiemetic for use in patients receiving cancer chemotherapy who are proven refractory to standard antiemetic agents such as prochlorperazine. THC is supplied in soft gelatin capsules containing either 2.5 mg or 5 mg THC suspended in sesame seed oil. Therefore, a dose must be prescribed in multiples of 2.5 mg, as the capsule cannot be split.

For inpatient prescribing in a registered hospital, a physician must complete a "Research Order for Medication" which is essentially the Physician's Order Form along with a statement indicating that informed consent has been obtained.

Patients in a non-registered hospital may also receive THC. The THC must be obtained for an individual patient by a family member or by hospital staff personnel from a participating hospital pharmacy. The THC for that single patient must be stored in a locked narcotic cabinet on the nursing unit. The THC may not be stocked in the pharmacy under any circumstances.

To prescribe THC on an outpatient basis, the authorized physician must complete a "Research Order for Medication" which is identical to a DEA Schedule II prescription order and must contain all prescription information as required by law. A standard prescription blank may be used. The phrase, "I affirm that informed patient consent has been obtained" is sufficient to confirm patient consent and should be located above the physician's signature. The name of the hospital through which the physician is registered should also be indicated if the prescription is to be filled somewhere other than where the physician was originally registered. The quantity of THC dispensed is limited to 25 capsules (2.5 mg or 5.0 mg) for any single prescription. In adherence to Federal Regulations, telephoned prescriptions cannot be accepted and prescriptions cannot be refilled.

**Dosing and Precautions**

The NCI states that the THC should be initiall administered at a dose of 5 mg/m$^2$ given six to eigh hours prior to cancer chemotherapy and then every fou to six hours as tolerated during treatment and for up t 12 hours thereafter. If patient response is inadequat and side effects are minimal, the dose may be increase to 7.5 mg/m$^2$. The administration of THC in th following groups of patients should be considere carefully because of increased health risks associate with marijuana use: 1) patients with lung disease o with cardiovascular problems such as congestive hear failure, angina pectoris, or conduction disturbances since THC can enhance symptoms of patients wit obstructive lung disease and induce tachycardias respectively; 2) adolescents, since THC can induc alterations in neuro-hormonal regulatory systems 3) women who are pregnant, because THC seems to b associated with embryotoxic effects on placenta function; 4) patients with seizure disorders, as THC ca exacerbate seizure activity; and 5) schizophrenics, sinc the drug has been shown to heighten psychoti behavioral adverse reactions.

**Conclusion**

The previous decade has produced significan advances in the treatment of cancer through the use o antineoplastic agents. It is unfortunate that control o one of the most debilitating side effects induced b cancer chemotherapy, emesis, has not paralleled thes advances. Because of the magnitude of the problem an the virtual lack of effective second-line antiemeti agents, orally administered THC has been identified as potential solution. THC appears to possess efficac against cancer-chemotherapy-induced nausea an vomiting. Clinical trials have demonstrated that THC i highly superior to placebo and at least as clinicall effective as the phenothiazines, notabl prochlorperazine.

It has been suggested that variability in response t THC could be influenced by the age of the patient, th etiologic agent inducing emesis, previous experienc with the use of THC, and erratic GI tract absorptio Although the preliminary studies appear favorabl further research must be completed prior to widesprea clinical use to determine safe optimal dosage and t select potentially responsive patient populations base on tumor type, specific chemotherapeutic agents use and individual patient characteristics.

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## *Surgery*

# Relief of Headache Following Resection of Traumatic Temporal Artery Aneurysm

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### Abstract

Headaches following head and neck trauma occur frequently. Pathogenesis varies and treatment is often difficult. This report describes an unusual case of persistent headache following head trauma which was due to a traumatic false aneurysm of the superficial temporal artery. Case report and review of the literature are presented.

### Introduction

Chronic headache following head and neck injury is a common complaint occurring in 30%-80% of such trauma victims.[2] The pain mechanisms are diverse and results of treatment are often poor. We are reporting an unusual case of headache due to post-traumatic aneurysm of the superficial temporal artery. A review of the literature is included.

### Case Report

J. P., a 30-year-old Mexican-American male, complained of a severe headache following a head injury sustained seven months previously. He had been struck on the left forehead with a blunt edge of a large flashlight. At that time there was no loss of consciousness and there was no scalp laceration, but a 2 cm contusion was present. He did not seek medical attention at the time of the injury. Several days after the accident, he experienced the onset of constant throbbing headaches of varying intensity over the left eye. These were exacerbated by lying flat and relieved by sitting up. The headaches were severe enough to cause him to miss three to four days work per week.

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Examination revealed a 0.5 cm pulsatile mass along the course of the superficial temporal artery (STA) over the left temporal region, adjacent to the site of injury. Occlusion of the STA by direct compression proximal to the mass relieved his headache. He received identical relief from an injection of one percent lidocaine near the origin of the auriculo-temporal nerve.

At operation he was found to have a round, firm, fusiform mass, 5 mm in diameter and length expanding the 1.5 mm STA, with dense fibrous tissue surrounding the vessel. Pathological examination of the specimen revealed a false aneurysm of the temporal artery with a sac composed of organized clot and dense connective tissue. Excision of the mass with ligation of the temporal artery immediately relieved the headaches. The patient has had no recurrence of headaches during the 24 month follow-up period.

## Discussion

Although chronic headache following trauma to the head and neck is common, studies reveal little correlation between incidence or severity of headaches and the mechanism or severity of injury.[11] However, Brenner found that the incidence of prolonged headaches was high in those who had scalp lacerations.[2] Only twenty-nine of 76 patients (24%) without lacerations had headaches of more than two months duration, while 31 of 40 patients (78%) with scalp laceration had headaches persisting for more than two months. In this series, there was no correlation between the occurrence of headache and mechanism of injury, loss or occurrence of loss of consciousness and post-trauma amnesia. A higher incidence of persistent post-traumatic headache was found in patients who were psychoneurotic prior to the accident, those who had anxiety feelings after the injury and those with unfavorable life situations, especially occupational problems or pending litigation.[1,2,10]

The pathogenesis of post-traumatic headaches is not well understood, and, in many cases, may involve multiple factors.[1] Some patients with post-traumatic headaches have intracranial abnormalities such as blood in the epidural, subdural or subarachnoid spaces causing inflammation or displacement of pain sensitive structures. In others, fibrous adhesions form causing traction on cortical veins or their tributaries, traction on intracranial arteries, or pressure and traction on cranial or cervical nerves causing post-traumatic headaches.[11] Contusion or hematoma in frontal, temporal, occipital or suboccipital muscles may also contribute.[11] Headache may be experienced as a referred pain in patients with cervical sprain.[1,11]

The majority of patients with persistent or recurrent post-traumatic headache have no neurological deficit and no demonstrable intracranial abnormalities.[1,11] Simons and Wolff described three types of post-traumatic headaches.[8] Type 1: A dull, diffuse aching sensation with deep tenderness to manual pressure. Type 2: Pain at the site of injury with a clearly defined superficial zone of localization. Type 3: A dull throbbin pain thought to be secondary to post-traumati dilatation of extracranial vessels. Types 1 and 2 wer thought to be due to stimulation of nerve endings i locally damaged tissues, possibly in association wit myositis, fibrositis or periositis. Our patient's symptom were most consistent with type 3. Simons and Wolf found that many of their patients had two or even a three types of headaches.[8]

Traumatic insult to scalp vessels and their nerv supply may also cause headaches.[10] Our case is a example of this mechanism. STA aneurysm represent an unusual cause of post-traumatic headache.[4] It i possible that the traumatic aneurysm caused irritatio or stimulation of the vasonervorum of the STA o adjacent pre-auricular scalp nerves producing pulsatil head pain which was synchronous with the crani arterial pulse. Relief of pain by proximal occlusion of th STA and by local anesthetic block of the adjacent nerve confirmed this hypothesis and led to effective surgic treatment.

This lesion is best described pathologically as a fals aneurysm of the STA.[4] False aneurysms develop when vessel wall is weakened by vascular anastomosis, blu trauma, penetrating wound or adjacent bone fracture They result from organization and encapsulation of perivascular hematoma that has retained or regained i communication with the vessel lumen. This sac has non of the usual vessel wall layers which are present in tru aneurysms. As in our case, the false aneurysm wa consists predominantly of fibrous and granulation tissu without muscularis or elastica layers.[3] False aneurysm are most commonly seen in the thoracic aorta althoug they may occur in any vessel.[3,7] In two previousl reported cases, the diagnosis was not mad preoperatively.[4] These patients presented with larger cm diameter pulsatile masses after injury inflicted by squash ball blow to the head. Initially a larger hematom had been present in one case.

In the evaluation of patients with post-traumat headache, the differential diagnoses of tempor arteritis, post-traumatic migraine, intracrani aneurysm, arteriovenous malformation or intracrani hematoma must also be considered.[11] The evaluatio should begin with a careful and thorough neurologic examination. This case suggests that a search for lesion of the scalp vessels and injection of scalp nerves c vessels with local anesthetic agents may help to localiz or define the cause. A computed tomographic brain sca (CT), if available, can best eliminate the possibilities c intracranial pathology.

Post-traumatic headache has been treated in man ways with varying results. Analgesic medication an ergotamine preparations have been utilized with som success.[6,9,11] Beta-adrenergic blocking agents have als been used with satisfactory results.[9,11] Injections int subcutaneous nerves of anesthetic agents, ammoniur sulfate or alcohol have been of benefit in some cases c racranial injuries.[6] Nerve section or excision has met h some success although recurrence of headache is quent, probably due to nerve regeneration.[3] If urysmal dilation of the temporal, supraorbital or ipital arteries is discovered, surgical excision of such ions under local anesthetic may effect a cure. eration is simple and safe and should relieve the ociated post-traumatic headaches.

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*Special Article*

# Creativity and Renewal in The Humanistic Physician

James A. Knight, M.D.

though humanism has many initions, the term is used here to refer that attitude toward others described "love of humankind." Our great ysician forebear Paracelsus has said: here there is no love, there is no art." ile committing themselves to the art l science of medicine, humanistic ysicians honor the dignity and manity of their patients and colleagues fellow human beings.

As for creativity, this phenomenon is en difficult to define or identify. We the term, however, in referring to t personal quality out of which grows something new and original. Further, we believe that this quality can bring renewal to ourselves and to the medical enterprise.

**Medicine's Attraction for the Creative Mind**

Many students enter medicine with creative capacities, with the need to be more of an artist than a practitioner. Often the pressure of medical school courses and clinical training tends to suppress creativity in the student. A redeeming feature of medical training is exposure to the magnificence of nature as it is displayed in the form and function of the human body.

There are incalculable opportunities for thoughtful, curious, and determined physicians to make an original contribution to their profession. The opportunity exists in medicine to use one's mind as well as heart in an artistic combination that leads to creative effort.

The Sherlock Holmes dimension of medicine, the art and science of diagnosis, is the greatest challenge in medical practice for many physicians. Diagnosis is a technique requiring the fullest use of the doctor's hands, ears, mind, and intuition. Treatment is so standardized in medicine that diagnosis may call forth much more of the doctor's problem-solving skills. The doctor may see himself or herself as the Magnificent Diagnostician.

Nobody will deny that medicine needs and frequently attracts the creative mind. Very little in medicine is routine, for each patient and each situation bring new challenges, as well as demands for problem-solving skills. Creative thinking may be the physician's most important weapon in coping with the emergencies and crises encountered daily in the

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practice of medicine.

One can note some common denominators in original and creative thinkers in medicine. These persons are self-teachers, quick to raise questions about "facts" and "theories" in medicine that most people consider well established. They are better able than others to live with uncertainty. They are profoundly aware of the brevity of life and the gravity of their purpose and feel impelled to strive. They yearn to change, to grow, to be different, and to escape from many of their human limitations. They possess personal courage that helps them stand aside from the social collectivity and often in conflict with it. Their courage is related to being themselves in the fullest sense.[1]

Creative students bring to medicine a consistent and pervasive emphasis on innovation through science, and a never-ending replacement of the old by the new in scientific progress. In the rich environment of hospital ward, laboratory, and classroom, these students receive the preparation needed to give expression to their creative talents. With eyes and ears that truly see and hear, exceptional observations may be made. As Louis Pasteur has put it: "In the field of observation, chance favors the prepared mind."

## How Renewal Comes From Creativity

One of Carl Jung's biographers, Marie-Louise Von Franz, writes that Jung's creative approach in patient care opened up a new field in analytical psychology. His habit of asking unorthodox questions characterized Jung's attitude all his life. Illness was for him the personal drama of a particular individual, in spite of all the categories of disease.[2] He sought to know the patient's secret story, for in the secret story would be found the key to treatment.

The personal drama of the patient fed, challenged, and sustained Jung's creativity. He was renewed constantly by the encounter with his patients and his writings about them, as well as by his writings about the human condition that his patients stimulated. We in the medical profession share with Jung and countless other of our creative forebears an immersion in the raw ingredients of life: birth, death, love, pain, suffering, tragedy, resurrection, and triumph. These are the ingredients out of which grow great poems and novels, new medical discoveries and surgical techniques, and improved approaches to teaching and learning. They are also the source of renewal in the physician.

Note these words: "Writing is a form of therapy; sometimes I wonder how all those who do not write, compose or paint can manage to escape the madness, the melancholia, the panic fear which is inherent in the human situation."[3] Those words are from one of England's best-known and most admired writers, Graham Greene, and are included in his latest book *Ways of Escape*. Although Greene is not a physician, his words speak to us in medicine and call us to an art that is a part of the nature of medicine. He, like Carl Jung, has not been bound by formal orthodoxies or doctrinaire strictures.

## Renewal and the Tragic Sense of Life

We can learn something from the ancient Greeks in their view of the tragic sense of life, the inevitability of death. The humanistic physician is at home with this view of life and draws strength from it. While it sharpens the empathic sense, it also nurtures a sense of renewal and creativity.

In their sense of the tragic, the Greeks did show us that pain could exalt, and, in tragedy for a moment, people could have sight of a meaning beyond their grasp. Euripides makes the old Trojan queen say, in her extremity: "Yet had God not turned us in his hand and cast to earth our greatness, we would have passed away giving nothing to men. They would have no theme for song in us nor made great poems from our sorrows." Edith Hamilton, in *The Greek Way to Western Civilization*, states that in Greek tragedy the figures are seen simply from afar, parts of a whole that have no beginning and no end, and yet their remoteness does not diminish their profoundly tragic and individual appeal.[4]

Something here relates to the physician as healer, who in healing does embrace the tragic sense of life, who in each human being sees humanity, who in each person sees an individual but one connected with something universal. Thus, with feeling, acceptance, and suffering, a special dimension is brought to the life of the patient, and in turn, to the doctor. Possibly Nietzsche had this dimension in mind when he spoke of the "reaffirmation of the will to live in the face of death and the joy of its inexhaustibility when so reaffirmed."

## Our Wounds in Healing

The physician as healer can be more fully understood when the archetype of the wounded healer is considered. Physicians often give the impression that weakness, illness, and wounds have nothing to do with them. The only wounds are those of patients, while they themselves are secure against them. Patients live in a world completely different from their own, they think. They then develop into healers without wounds and can no longer constellate or release the inner healing factor in their patients or in themselves. The mythological image of the wounded healer is widespread and proclaims that the patient has a healer within, and the healer a patient within.[5]

It is one's own hurt, one's sensitive openness to the patient that gives t measure of the doctor's power to he This is how Jung interpreted the Gre myth of the wounded healer, the myth Asclepius, paradigm of the wound healer.[6]

In substance, the myth of the wound healer tells us that only through our ov exposure in work with patients are v able to stay in touch with ourselves a find the roots and sources of wholeness the degree that we maintain balance our lives. Thus, the purpose of facing o wounds may be in essence the way to fi those healing powers within. Groesbe reminds us that although heali ultimately is a mystery, trying to fathc it is a never-ending exciting venture; f in our quest we may come to knc something more of ourselves.[7,8]

Although we may not recognize except our wounds, it is rare that escape being wounded as participants the healing enterprise. Yet, our woun may be a source of power and rebirth ourselves and others.

Ernest Hemingway understood w the creative power in one's wounds a wrote to his troubled fellow-writer, Scott Fitzgerald, to finish *Tender Is Night*: "Forget your personal tragedy. are all bitched from the start and y especially have to hurt like hell before y can write seriously. But when you get t damned hurt use it — don't cheat with Be as faithful to it as a scientist. . ."[9]

To illustrate further the healing pow of wounds, one's attention is called Unamuno's story of Don Immanuel.

There is a story by that renown Spanish writer and philosopher, Migi de Unamuno, in which a priest, living i small Spanish village, is loved by all t people for his piety, kindness, and t majesty with which he celebrates t mass. To his people, he is already a sai and they speak of him as Saint D Immanuel. He helps them with th plowing and planting, tends them wh they are sick, hears their confessio comforts them in death, and eve Sunday, in his rich, lilting voice, lifts th to the gates of heaven with his chanti Actually, Don Immanuel is not so muc saint as he is a martyr. Long ago his o faith left him. He is an atheist, a good m doomed to suffer the life of a hypocri pretending to a faith he does not rea have. As he raises the chalice of wine, hands tremble. A cold sweat pours fr him. He cannot stop, for he knows t the people need this of him, and that th need is greater than his sacrifice. Stil .still. . . could it be that Don Immanu whole life is a kind of prayer, a song of j to God? He preserved hope in th whom he served, when there was no ho within himself.[10]

Probably, in the last analysis, we a more like Don Immanuel th

pocrates. Often we have been called
ırd healers. Probably it is absurd, yet
noblest of human effort that we
eatedly find it necessary to exert all
will and strength to move ahead with
patients, whether the road be clouded
uncertainty or blocked by
elessness.

### ıclusion

tin Buber has spoken of visting
lin, his former home. He went into the
edral and felt an overwhelming sense
eauty and awe with the music, stained
ss windows, majestic arches,
metry, and solitude. Then he left the
edral and stopped briefly at the
rby Jewish cemetery. The hinges on
gates had almost rusted away. Some
he headstones had been broken, and
ers had fallen down. Among neglected
ves were a few well-tended ones. A
had built her nest in a tree and was
ching over her young. While standing
the roadside and looking into the
etery, he noted that he felt more at
ne there than he had felt in the
edral. The cemetery and its symbols
ke to him of the real world—its losses,
roken relationships, the continuity of
, and the sense of enduring
munity. The cemetery's symbols and
osphere spoke more about life as it is
d and the human condition than did
cathedral. He realized that he was at
ne by the roadside and in the presence
the cemetery, for that was the
ation in which he lived and worked.
he physician may experience brief
ts to the cathedral but lives and works
side of the cathedral, at the roadside
r the cemetery. In such a setting, the
nanistic physician finds a new birth
a new vision.

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## *Editorials*

# The College of Medicine Minority Program

From the entrance of the first class in 1967, the College of Medicine has had a strong interest in providing medical education opportunities for minority disadvantaged students. In 1968, a committee was appointed by Dean Merlin K. DuVal, M.D., to determine how to stimulate interest in careers in health sciences by minority group individuals. In 1969 the Committee received funding from the Josiah Macy Foundation to develop a summer program attended by 15 students. This program offered academic experience in mathematics, chemistry, and English, and work experience in the health sciences. In subsequent years, through Neighborhood Youth Corps and the National Urban Coalition League funds, the experience was extended to more young people to assist them in making health science career decisions.

In 1972, the summer program was expanded to include a year-round program through local high school health science clubs. This program, Med Start, was funded by the U. S. Department of Health, Education, and Welfare. Resource material from the University of Arizona was provided and a strong summer program modeled after the original program was continued. With local support from the University of Arizona, new federal support was obtained in

September 1981 and the program has become state-wide with full-time coordinators and a summer program on all three Arizona state university campuses. To date, the Med Start program has provided health career experience to some 1,000 students. Its success can be measured by a college attrition rate of less than 20 percent for students who participated in the program, far lower than that of the general enrollees at the University.

In 1978, a Minority Recruitment Program was initiated in the College of Medicine by a number of enrolled former Med Start students. The purpose was to create among young minority individuals an awareness of possibilities for careers in medicine and to provide role models for these individuals. The program, partly funded by a grant from the American Medical Student Association, is the foundation of numerous outreach activities aimed at high school and college students throughout the state of Arizona. Premedical conferences, counseling and workshops to assist students in applying to medical school are conducted throughout the year. The project has become the focal point of a strong support system for minority students at the undergraduate and graduate level. The project served to identify a group of faculty, within the College of Medicine, who have a strong commitment to minority students and who act as advisors and counselors willing to give academic assistance when needed. The project provides information to minority premedical students about summer programs at other medical schools and provides counsel about medical schools with the greatest opportunities for acceptance.

Following the onset of the program, both the quality and the quantity of the minority applicants to the University of Arizona College of Medicine has improved and increased. The number of applicants is still small: 20 to 22 applicants out of a pool of 350 from a state where there is a minority population of approximately 30 percent. As a companion activity it is important that the admission to medical school process be supportive. The sensitivity level of the Admissions Committee to the characteristics of minority and non-traditional students has been raised by utilizing the Simulated Minority Admission Exercise furnished by the Association of American Medical Colleges. Additionally, the enrolled minority medical students have put forth a concerted effort to convince accepted minority applicants that the University of Arizona has a great deal to offer.

In its brief history, the College of Medicine has graduated the following minority students: 8 American Indian students, including the first Hopi physician; 26 Chicano/Mexican-American physicians; and 4 Black physicians. These statistics are just the beginning. The College of Medicine is committed to continue recruiting and support activities. At present, the minority enrollment includes: 1 American Indian student, 22 Chicano/Mexican-American and/or Hispanic, and 2 black students. This shows a significant increase compared with the previous ten years. The College of Medicine is enthusiastic about this program and hopes that the medical community within the state will assist us in identifying individuals from minority backgrounds with the potential to become excellent physicians.

Andrew M. Goldner, Ph.D.
Associate Dean for Student Affiars
Louis J. Kettel, M. D.
Dean, College Of Medicine

## "How You Treat?"

The following judgments are typical of the commonest derogatory statements that physicians make in their evaluation of Continuing Medical Education courses:

"Not too valuable clinically"
"We want application information, not research and laboratory techniques"
"Impractical, we don't have facilities for that"
"We want to know how to treat specific diseases"
"Interesting, but of no practical substance"
"It was all esoteric, we learned next to nothing here"
"Theoretical, but not practical"

These complaints arise from an attitude that is exaggerated and cartooned by an experience of my physician brother-in-law:

While he was serving in the military service in a medically backward area of Korea, with "altruism in his heart" and "rocks in his head," he anticipated using his superior medical background to improve the education of the local physicians. Those physicians approached him with apparent interest and enthusiasm. However, they asked one, and only one question—"How you treat?" Also, they heard only what would answer that one question: "How you treat?" He was completely frustrated in his attempt to interest and educate them in a better understanding of disease processes. When he returned home he felt that he
had failed in his attempt to instill a desi
for scientific understanding that he f
would be the best basis for long-ter
continuation in progress of their patie
care.

A British scientist who had recen
made a discovery which at that ea
moment had no practical application, w
asked in a derogatory manner by
member of Parliament, "Of what use
your invention?" The scientist repli
that he knew of no practical use now, b
when one was found he was sure it wou
be taxed. This "put-down" expressed t
reality that there is always a time g
between discovery and practicality, a
that practicality is inevitable. We, t
should realize that seemingly irreleva
scientific concepts we learn today may
the basis of competence tomorrow.

Even though learning proven n
"how you treat" algorithms has obvic
value and may cause some instantanec
improvement in patient care, broadeni
one's intellectual base with as
impractical understanding and insig
may be more useful in one's long-te
ability to remain intellectually sharp,
able to assimilate new concepts, and st
at the forefront of progress.

One who practices only by curr
"how you treat" algorithms of othe
rather than by checklists developed a
continually modified by his o
understanding, intellect and faith
scholarship will deteriorate to a m
"health care delivery technician."

Government agencies and t
medically naive laity in th
shortsightedness think that health c
delivery technicians are what our coun
needs. They proceed to judge compete
and give licensure based upon recitati
of current "how you treat" algorithm

If we choose to be real physicians a
not merely "health care delive
technicians," we must continua
broaden our scientific base, assimilate a
be excited by a wide variety of medi
knowledge, and not be too concerr
about instantaneous practicality. We
then be at the frontier, constan
changing our own algorithms, ratl
than being made obsolete by new ones
others.

When I hear someone complain t
basic science knowledge and insight gi
at a medical meeting is impractical, I
reminded of those isolated physicians
Korea. Is it not better that we ask: "H
you understand?" and not merely, "H
you treat?"

Robert M. Anderson, M.D.
Associate Dean,
Continuing Medical Education
and Outreach
College of Medicine
University of Arizona
Health Sciences Center
Tucson, Arizona

# hy Insure with a ysician-Owned mpany?

hysicians, given the choice of being ured by a commercial carrier versus a ysician-owned company, have several tors which they should consider. The son for the existence of each of the o types of entities, the cost of providing eir services, their methods of eration, and their general interest in ving the medical malpractice problem, but a few of the comparisions that the ysician should make. The physician-ned companies and the commercial urance carriers resemble one another ly in the product they sell—ofessional liability insurance for ysicians.

he primary emphasis for commercial urance companies has been for fit—why else would they be in the siness? On the other hand, the ysician-owned companies have been med usually in a crisis situation and e placed their primary emphasis on king insurance available to physicians an affordable price. Profits derived m commercial companies must be urned to foreign stockholders; ereas any profit derived from the ysician-owned companies is returned the physician/owners. It is accepted t that the premium dollar is held by the urance carrier for some 3-1/2+ years ore it is paid out. This has been an entive to commercial carriers whose mary interest is investment income, ecially in the face of double-digit ation, to return to the market. One only wonder what will happen to se commercial carriers if and when the ation rate becomes single-digit with a ultant decrease in investment income. h a situation appeared in 1975, and in eral states commercial carriers ndoned the physicians and their need coverage. It was in this climate that physician-owned, medical society-nsored insurance companies were wned.

here is a basic philosophical difference ween the commercial carriers and the sician-owned companies as to claims settlement and reserving. What difference does it make to a commercial carrier when the reserves for losses are overstated or extremely high? The commercial carrier, minus competition, as occurs in several states, has only to apply to the Insurance Department for increased premiums justifying the increase based upon higher reserves that have been established as a result of claims. On the other hand, the physician-owned companies have striven to keep reserves down by careful screening of their claims and defending vigorously those claims which are without merit. The physician-owned companies have a splendid record as to the closing and disposition of claims when compared to commercial carriers. Commercial carriers have less incentive to settle these claims as it means they have a longer period of time to hold the premium dollar and thus increase their investment dollar before it is ultimately paid for claims.

The physician should also compare the structure and scope of business of the two entities. The control of the commercial company, which is generally involved in providing multi-lines of insurance and in several states, rests with its foreign stockholders; and often profits from one line of business in one state are used to subsidize other lines in other states. The decision-making process of the commercial carrier is entrusted to a group of executives whose primary loyalty is to the company and not to the insured physicians. On the other hand, in the physician-owned company the control lies with its physician-owners; and the decision-making process is delegated to a board of physicians who are insured by the company and whose primary loyalty and interest is to the physicians they insure. Most physician-owned companies specialize in medical malpractice insurance in only one state. Every physician should consider how much input he will have into the multiline, multistate commercial insurance company versus a small specialized company whose directors are practicing physicians who are receptive to telephone calls, letters, and frequent conversations with the insured physicians.

The commercial carriers, perhaps unwittingly, gave rise to the medical malpractice crisis in 1975 by settling many claims for economic expediency rather than defending nonmeritorious claims with the assets that they had in their possession. The same companies have done little, if anything, to help solve the problems they have created. On the other hand, the physician-owned, medical society sponsored insurance companies have pledged to defend every nonmeritorious claim with all of the vigor and assets they have at hand to dissuade further filing of such claims. An economically expedient settlement today can only foster more frivolous claims by the same plaintiff attorneys in the future. The physician-owned companies have generally worked closely with the state medical associations which have created and sponsored them for the enactment of tort reforms to try to solve the medical malpractice crisis which was not of their making.

A physician considering purchasing his professional liability insurance from a commercial carrier should ask the representative at the time he is solicited what assurance the company can give him that, in the event of one or two bad years in his state, they will not cease to provide his coverage and leave the physician bare as happened in many states in 1975. The physician-owned, medical society-sponsored companies are committed to providing professional liability insurance on an actuarially sound basis at an affordable price and are prepared to stay with the physicians they insure through the good years, when they will return dividends, and through the bad years when the losses may exceed that which was anticipated.

Commercial carriers are in some instances offering coverage to physicians at unrealistically low rates while at the same time paying agents lucrative commissions to obtain this business. These "loss leaders" will soon disappear when the company is firmly entrenched in a given area. Generally, most physician-owned companies do not pay agents' commissions and often successfully operate their entire company on a lower percentage of the premium dollar than the commercial carriers are willing to pay their agents for the physicians' business.

In purchasing insurance the physician must beware as in any other purchase; for often the lowest premium today may not in the long run prove to be the wisest or most prudent investment. If commercial carriers, through underpricing their product, were to force the physician-owned companies to withdraw from the market, and then they too left, we would have then come full circle to the days of 1975 when physicians were left without professional liability coverage available at any price. The big difference, should this occur, would be that there would be no medical societies willing to reform physician-owned companies and reenter the cyclic process. One can only speculate as to what might happen then. Your support of your physician-owned company at this time might also insure your right to practice medicine in the free enterprise system in the future.

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## Briefly Noted

Congratulations to the following members of the Arizona Medical Association who were named Fellows of the American Academy of Family Physicians at the 1981 Fellowship Convocation Ceremony in Las Vegas: **Kenneth P. Archer, M.D.**, Prescott; **David E. Benton, II, M.D.**, Mesa; **Louis Hait, M.D.**, and **Ray D. Hughes, M.D.**, of Phoenix; **M. N. Irani, M.D.**, Casa Grande; **Morton S. Thomas, M.D.**, Wickenburg; **David Wallace, M.D.**, Tempe; and **H. Howard Holmes, M.D.** of Eloy.

Kudos also are due **James J. Berens, M.D.** of Phoenix who was elected 1981-82 president of the Western Surgical Association at the November meeting in Albuquerque.

**P. R. Garver, M.D.** of Show Low recently spoke to members of the Show Low Elks Lodge on the topic, "Your Health, It is Yours to Maintain."

**Edward L. Shaw, M.D.** of Phoenix was welcomed as a Fellow of the International College of Surgeons at the recent convocation ceremony in San Diego.

Let us know what is happening in your county. Honors and awards, election to office in a professional society, hospital, or other organization, participation in a conference or a speech before a local group are of interest to your fellow physicians. Mail or telephone your items to **Briefly Noted**, Arizona Medicine, 810 West Bethany Home Road, Phoenix, Arizona 85013.

## Chairman's Report

# Board or Bored?

This is the first of a series of articles designed to bring to ArMA members the voices of your Board and various committee chairmen — their views, strategies, plans of action — even frustrations and mistakes. Such expressions will likely evoke responsive reader comment. Hopefully, it will ser as a challenge to greater involvement the affairs of your medical organizatio be it county, state, national, or special — perhaps even a renewed effort direct toward community involvement a leadership. Commitment is not new the physician's vocabulary. But, in society indulging in "self absorption," may take a little bell ringing to bring t word and its meaning back into prop perspective.

Has society's preoccupation wi "survival mentality" and "fear of t future" carried over into our professio thinking? Do we stand paralyzed by o own imagery, our own self-indulgence mirror gazing? Have we indeed "fallen love with ourselves" as Christoph Lasch describes in his book *The Cultur Narcissism*. To aspire to the virtues individuality is not to condone s indulgence. Rather, one's sense individuality should strive to reach continued self-growth. Proper se improvement encompasses moral a spiritual value and a commitment t shared purpose of a larger community. a word, we need to strive for excellenc that awareness that we are being true the best that is in us, or to acknowle that we are not. Society and profession will be bettered not only those who achieve it, but by those w are trying. Physicians apply their tal and educational skills aptly to th respective specialty but would do well stretch out beyond their immedi professional circles if they are to responsive to the leadership role expec of them by society. "Apathetic m accomplish nothing." No one specifies nature to which our convictions m conform. Our goals will be as varied as are; but they should be goals w meaning and purpose if our commitm is to enrich our own lives as well as community of which we are a part.

So are we to be identified with *Bo* defined to distinguish among us t group striving for self-expansi individually and collectively, as it purs meaning, purpose, and commitment in activities — or are we just *bored*, aftermath of self-indulgence wh natural instincts, talents and purp remain imprisoned within the shell withdrawal. I believe our Association a your Board are "growing." We all ow to ourselves not to go to seed. Youn members of our profession do not le ethical principles; they emulate eth people. They do not analyze or list attributes they wish to develop; th identify with people who seem to them have those attributes. Do we meas up? Do you?

Clyde W. Kurtz, M.D.
Chairman, Board of Directors

# First Class First Aid

- Broad-spectrum antibacterial
- Handy applicator tip

**SCRIPTION:** Each gram contains: Aerosporin® (Polymyxin B Sulfate) 5,000 units, citracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); ecial white petrolatum qs; in tubes of 1 oz and ½ oz and 1/32 oz (approx.) foil packets.

**DICATIONS:** *Therapeutically* (as an adjunct to systemic therapy when indicated), for pical infections, primary or secondary, due to susceptible organisms, as in: • infected rns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, thyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, d seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of cterial infection. *Prophylactically*, the ointment may be used to prevent bacterial contamition in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts d wounds accidentally incurred, its use may prevent the development of infection and rmit wound healing.

**ONTRAINDICATIONS:** Not for use in the eyes or in the external ear canal the eardrum is perforated. This product is contraindicated in those individuals o have shown hypersensitivity to any of its components.

**ARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due neomycin, care should be exercised when using this product in treating extensive rns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

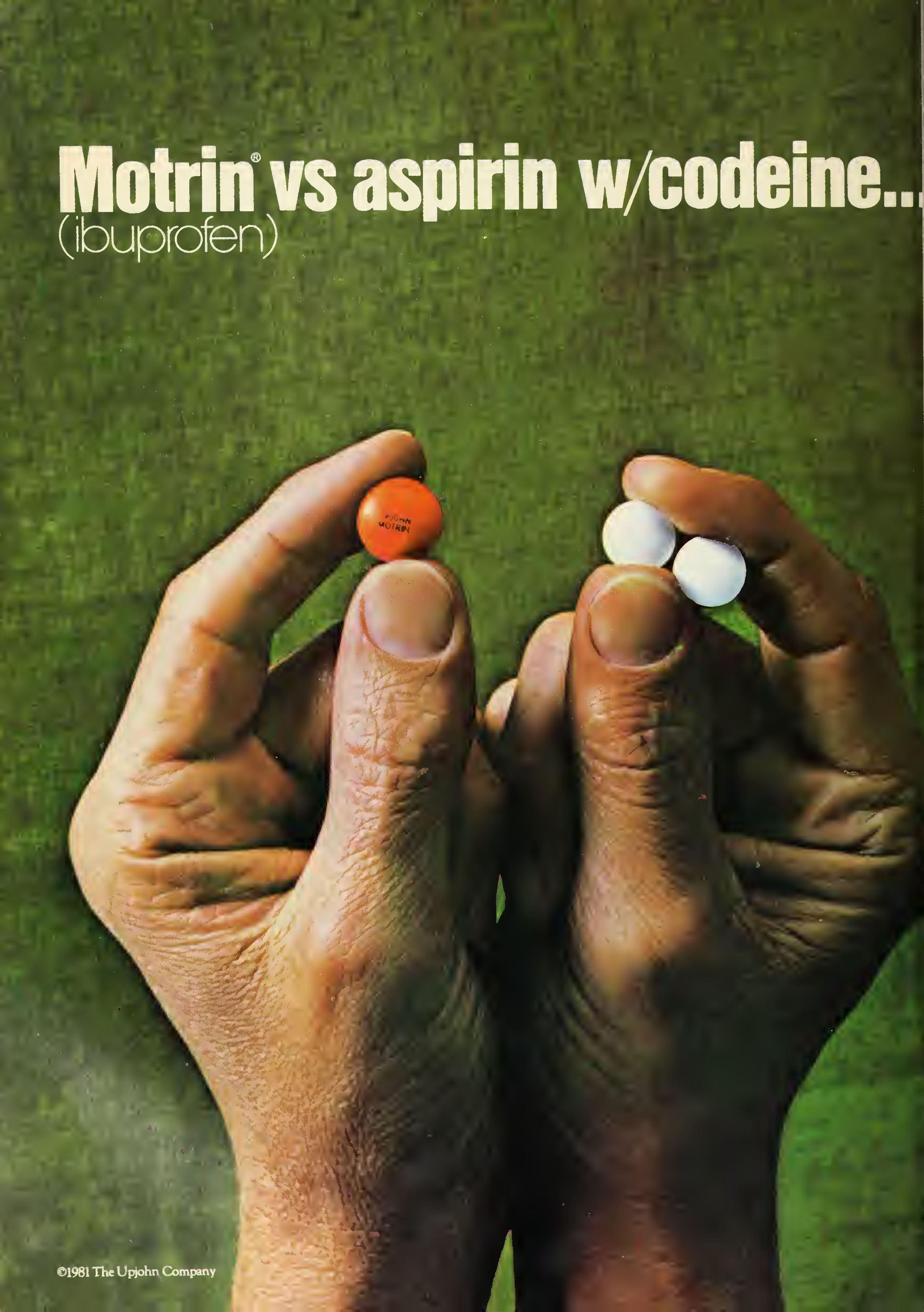
When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

**PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

**ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

Wellcome
Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709



# Motrin® vs aspirin w/codeine...
(ibuprofen)

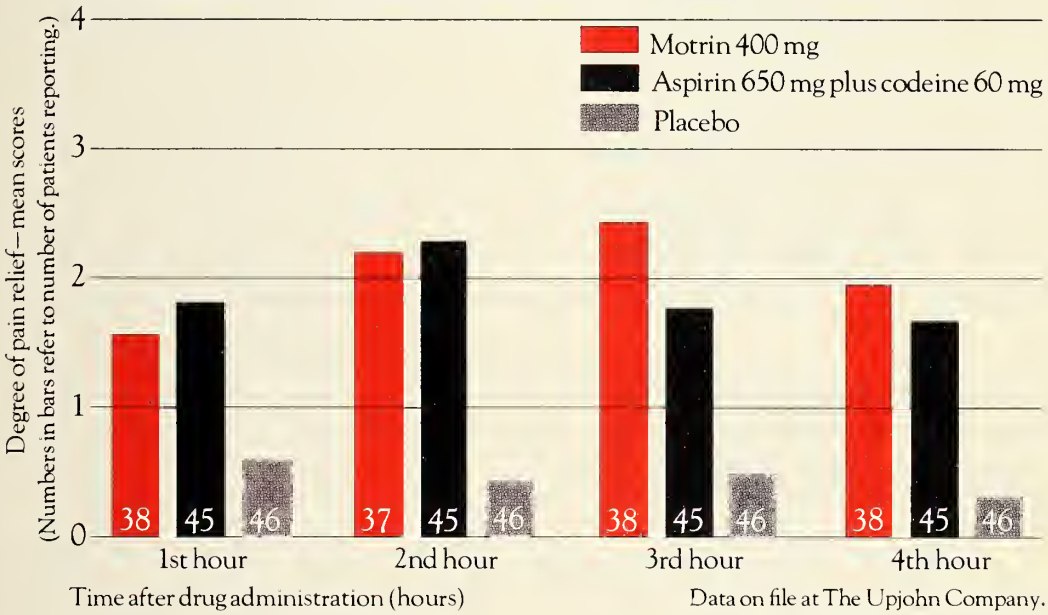
©1981 The Upjohn Company

# compare the analgesic effect

A *Motrin* 400 mg dose relieved postsurgical dental pain as effectively as a combination of 650 mg aspirin and 60 mg codeine (two aspirin-with-codeine No. 3 tablets) in a study of 129 patients. In this double-blind, placebo-controlled, randomized study, no statistically significant difference in relief of pain was noted at 1, 2, and 4 hours between the *Motrin* and aspirin-with-codeine groups... with *Motrin* being significantly more effective ($p = 0.03$) at the three-hour interval. Active treatment was significantly more effective ($p < 0.0001$) than placebo at all time intervals.

**Comparison of pain relief**
**Motrin vs aspirin-codeine combination**

4 = Excellent relief   3 = Good relief   2 = Fair relief   1 = Poor relief   0 = No relief



Data on file at The Upjohn Company.

**One tablet q4-6h prn**
**For relief of mild to moderate pain:**

## Motrin® 400 mg TABLETS
## ibuprofen, Upjohn

• Not a narcotic • Not addictive • Not habit forming • Nonscheduled • Acts peripherally • Relieves pain rapidly • Relieves inflammation • Indicated in acute and chronic pain • Well tolerated (The most common side effect with *Motrin* is mild gastrointestinal disturbance.)

Please turn the page for a brief summary of prescribing information.

**Upjohn**

**Motrin**® (ibuprofen)
**now proved an effective analgesic for mild to moderate pain**

**Motrin® Tablets** (ibuprofen, Upjohn)

**Indications and Usage:** Relief of mild to moderate pain

Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis

**Contraindications:** Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

**Warnings:** Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS)

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding

**Precautions:** Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added

**Drug interactions.** *Aspirin*. Used concomitantly may decrease Motrin blood levels. *Coumarin*. Bleeding has been reported in patients taking Motrin and coumarin

**Pregnancy and nursing mothers:** Motrin should not be taken during pregnancy nor by nursing mothers.

**Adverse Reactions**

***Incidence greater than 1%***

**Gastrointestinal:** The most frequent type of adverse reaction occurring with Motrin is gastrointestinal (4% to 16%). This includes nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness,* headache, nervousness. **Dermatologic:** Rash* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS)

Incidence 3% to 9%.

***Incidence less than 1 in 100***

**Gastrointestinal:** Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

***Causal relationship unknown***

**Gastrointestinal:** Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

**Overdosage:** In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

**Dosage and Administration:** Rheumatoid arthritis and osteoarthritis, including flares of chronic disease. Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain. 400 mg every 4 to 6 hours as necessary for relief of pain

Do not exceed 2400 mg per day

**Caution:** Federal law prohibits dispensing without prescription

For additional product information, see your Upjohn representative or consult the package insert

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J-8260-4

MARCH 1981

It's time we took arthritis seriously

It's a myth that arthritis is just the minor aches and pains of old age. It's a major crippler that attacks. Anybody. Anytime. 31 million Americans have it. There are almost a million new cases a year. And six out of ten are under 60. Symptoms can come and go for years. So if you don't know the warning signals, find out. If you'd like information that could help you—or you'd like to help us—write to the Arthritis Foundation, Box 19000, Atlanta, GA 30326.

ARTHRITIS FOUNDATION

## Correspondence

*ditor*

In the never ending quest for the magic iet which will resolve the complex roblem of obesity, there has been a ecent resurgence of intense interest in ery low calorie diets. It is only four years go that some sixty adults died and undreds of injuries occurred after three o nine months of a very low calorie liquid rotein diet. Some of these adults died vhile under the supervision of hysicians!

It was five years ago, in 1976, that the merican Society of Bariatric Physicians A.S.B.P.) issued a Press Release which varned our physician colleagues as well s the American public of the potential azards of the liquid protein craze that vas sweeping the country. Unfortun-tely, these hazards turned out to be ethal in many patients who had reduced p to ninety pounds and who felt well and ppeared to be functioning well right up o a week prior to death. Unfortunate also vas that the A.S.B.P. Press Release at hat time received very little press.

The A.S.B.P. at its October 1981 nnual scientific sessions unanimously dopted a resolution by the Board of rustees that we issue another Press elease to warn not only the public but lso those of our colleagues in the medical rofession who are advising some of their atients on the use of very low calorie iets and especially those physicians who re promoting the use of any of the very w calorie diet products.

obert E. T. Stark, M.D.
onald S. Robertson, M.D.
lembers, Board of Trustees
merican Society of
ariatric Physicians

## Medical History

# Early History of the Medical Society of the U. S. and Mexico

Harry E. Thompson, M.D.

Editor:
John W. Kennedy, M.D.

It was early in 1956 that the Medical Society of the United States and Mexico really got started. Before that, in 1953, Dr. Robert Hastings, Sr., Dr. W. R., Manning, and I had helped to form the first Medical Society of Southern Sinaloa in Mazatlan. It became obvious at that time that a great deal of benefit could be accrued on both sides of the border by establishing such an organization and through our good friend, Dr. Hector Gonzales Guevara of Mazatlan, efforts were made to formulate an initial meeting, which took place at the Pioneer Hotel in Tucson, Arizona on the 24th of November 1956. This was the formation meeting and was attended by doctors from Phoenix, Tucson, Guadalajara, Mazatlan, Hermosillo and Magdalena. Pictured at this meeting are:

**Dr. Alberto Guevara, Dr. Harry E. Thompson, Dr. Hector Ginzales Guevara, Dr. E. Rivera Magallon, Dr. Robert Hastings, Sr., Dr. Frank Edel, Dr. Charles Kalil, Dr. Michael Carreras, Dr. W. R. Manning, Dr. Norman Ross, and Mr. Alfredo Patron.**

Not identified in this picture and attending this meeting: Dr. J. M. Greer, Dr. Leo Kent, Dr. Salvador Rodriguez, Dr. W. G. Shultz, Dr. Manuel Soto Curiel, and Dr. Javier Maldonado Avila, Dr. Jose Ma. Licona, Dr. Gaston Madrid, Dr. Jesus Martinez Ochoa, Dr. Juan Jose Vasquez Romo, Dr. Hunberto Rosas, Dr.

Carlos Silva, Dr. Guillermo Soberanes.

It was decided that the next meeting would be held in Hermosillo and this meeting was held on March 16, 1957. I would like to quote from a recent letter to me from Dr. Norman Ross concerning the organization for this meeting: "I suggested that we get Governor McFarland to invite the Governors of Sonora, Jalisco, and Sinaloa to join him and Arizona in producing a mutually agreeable and successful program, the first between our countries. I took the proposal to Governor McFarland. He said, 'Pick a secretary, write and sign the letters for me — Tucson has and needs Mexican trade and Arizona needs its Mexican neighbors'."

At this meeting in Hermosillo, a Constitution and Bylaws were drawn up. They named a coordinating committee consisting of Dr. Ignacio Chavez, (a natural choice since he was a known professor of Dr. Gonzales Guevara in Guadalajara), Dr. W. R. Manning and myself. I think it is most interesting that dues at that time were set at $3.50 (dollars) per year. A great deal of time was spent on the Constitution and Bylaws and Dr. Carlos Tapia from Hermosillo was one of the major leaders at that time.

Subsequently, the first formal meeting was held in Mazatlan, Sinaloa, Mexico on May 9, 1957. It was full of pomp and ceremony — the Army, the Navy, their ranking officers, two military bands and two orchestras for dancing were there. Dr. Hector Gonzales Guevara was mayor of Mazatlan at that time and he went all out for this meeting. All Charter members signed a sheepskin which is still in the possession of Dr. Gonzales Guevara.

Pictured is **Dr. Harry Thompson** signing this scroll.

**1. Dr. Alberto Guevara, 2. Dr. Harry E. Thompson, 3. Dr. Hector Gonzales Guevara, 4. Unidentified, 5. Unidentified, 6. Unidentified, 7. Unidentified, 8. Dr. Robert E. Hastings, Sr., 9. Dr. Frank Edel, 10. Charles Kalil, 11. Dr. Michael Carreras, 12. Dr. W. R. Manning, 13. Mr. Alfredo Patron, 14. Dr. Norman Ross, 15. Unidentified, 16. Unidentified, 17. Unidentified, 18. Unidentified, 19. Unidentified, 20. Dr. E. Rivera Magallon.**

Later meetings were held in Guadalajara on an alternate basis with Phoenix and Tucson. Some meetings were held in Mazatlan. One meeting was held in Albuquerque, one in San Francisco, and one in Puerto Vallarta. Since the attendance was best at meetings held in Gadalajara, Tucson, and Phoenix, it was decided that the meetings would be held in these cities alternating between Mexico and the United States each year.

There have been very memorable meetings. At the initial reunions one saw doctors with their papers in their back pocket, one heard a discussion of the daily office life — a very "old shoe" type of presentation. At the present time our meetings are most modern and rank with the finest. Fortunately for Mexico, the Social Security Hospitals have done a great deal to improve the medical practice in Mexico and now specialists from all over Mexico and the United States attend our meetings. Probably one of the greatest features of this Society is that it involves all specialties. So often one is so steeped in one's own specialty that no one else outside of it is met. In this society one can meet other specialists. For instance, Dr. Michael DeBakey was a guest of the society through Dr. Alfonso Topete of Guadalajara and so we became acquainted with him. Another example is that my chief in the research department at Northwestern University was Dr. Carl Dragstedt. I knew of his brother, Lester, of vagotomy fame only by name. Subsequently, through this society and because he was a good friend of Dr. Ignacio Chavez of Guadalajara, we became acquainted. So that there has been a good mixture of specialties.

Another great feature of this society is that it has provided a very important linkage of friendship between Mexican doctors, their spouses and our doctc
and spouses. Friends have been made th
have lasted several years and each ye
new friends are being made in the sar
manner.

Dr. Frank W. Edel, writing in the Ju
1957, issue of *Arizona Medicine* said abo
the then newly formed Medical Society
the United States and Mexico: ". . . t
evolution and present development
this progressive new medical society
the United States and Mexico should be
the utmost interest to all physicia
practicing in the southwestern U.S.
and in the very near futur to the ent
United States of America."

Dr. Edel's prognostication has come
pass. This Society has membe
throughout the United States includi
Hawaii and all of Mexico.

# La Sociedad Medica De Estados Unidos De Norte-American Y Mexico
# Medical Society of the United States and Mexico

*la Reunion Formal en Mazatlan, Sin., Mexico del 9 al 11 de mayo de 1957*

*1st. Formal Meeting at Mazatlan, Sin. Mexico from the 9th to the 11th of May 1957*

## Registro De Asistentes
## Roster

| ame | Address | City |
|---|---|---|
| . Rafael Gutierrez | Lisco 128 | Guadalajara, Jal. |
| . Miguel Castellanos | Estolosa 37 | Guadalajara, Jal. |
| . Palemon Rodriguez G. | Veracruz 280 | Guadalajara, Jal. |
| . Eduardo Contreras Reyna | Marsella Nte. 125 | Guadalajara, Jal. |
| . Manuel Perez Anguiano | Sonora Nte. 131 | Guadalajara, Jal. |
| . Alfonso Topete | Pavo 112 | Guadalajara, Jal. |
| . Adolfo Flores Ortega | Ave. Juarez 434 | Guadalajara, Jal. |
| . Amado Ruiz Sanchez | Pavo 112 | Guadalajara, Jal. |
| . Alberto Ladron Guevara | Pavo 112 | Guadalajara, Jal. |
| . Jesus Hernandez O. | Col. Sur 470 | Guadalajara, Jal. |
| . Enrique Garcia Ruiz | Rolsa 487 | Guadalajara, Jal. |
| . Eduardo Gonzalez M. | Juarez 673 | Guadalajara, Jal. |
| . Enrique Ruiz de Leon | Vidrio 720 | Guadalajara, Jal. |
| . Manuel Riebleing R. | Hidalgo 766 | Guadalajara, Jal. |
| . Carlos Palomera V. | Ave. Italia 961 | Guadalajara, Jal. |
| . Enrique Gandara Q. | Obregon 68 Nte. | Culiacan, Sin. |
| . Francisco Agraz | Hidalgo y Mina | Los Mochis, Sin. |
| . Rodolfo Ramirez Ruiz | A. Rodriguez 90 | Guaymas, Son. |
| . Carlos E. Silva | Garcia Morales 93 | Navojoa, Son. |
| . Xavier Maldonado A. | Edo 218 | Navojoa, Son. |
| . Ernesto Rivera M. | Pesqueira y Heroes | Magdalena, Son. |
| . Francisco Lanz Perez | Abazolo 135 | Magdalena, Son. |
| . Rolando Valenzuela C. | Allende 5 | Magdalena, Son. |
| . Lizardo Arreguin M. | A. Flores 360 B Pte | Mazatlan, Sin. |
| . Alfonso Alatorre I. | Constitucion 81 Pte | Mazatlan, Sin. |
| . Luis de Alba Luna | Carnaval y Canizales | Mazatlan, Sin. |
| . Elias Cardenas Mora | Constitucion 38 Pte | Mazatlan, Sin. |
| . Alberto Gonzalez Vega | J. Carrasco 35 | Mazatlan, Sin. |
| . Nicolas Juarez | B. Domingquez 15 Sur | Mazatlan, Sin. |
| . Froylan Borjas M. | B. Dominguez 10 Nte. | Mazatlan, Sin. |
| . J. Francisco Gomez C. | Carnaval 18 Sur | Mazatlan, Sin. |
| . Hector Gonzalez Guevara | B. Dominguez 15 Sur | Mazatlan, Sin. |
| . Hector Arteaga Z. | Mariano Escobedo 9 Pte | Mazatlan, Sin. |
| . Olavo Corona | B. Dominguez 69 Nte | Mazatlan, Sin. |
| . Patricio Kelly | Constitucion 40 Pte | Mazatlan, Sin. |
| . Alfredo Lizarraga | B. Dominguez 31 Nte | Mazatlan, Sin. |
| . Robert Morfin Alvarex | Olas Altas 73 | Mazatlan, Sin. |
| . Eusebio Olalde Hdez. | Zaragoza 52 Ote | Mazatlan, Sin. |
| . Pedro Rocha Saldana | M. Ocampo 6 Ote Altos 3 | Mazatlan, Sin. |
| . Fernando de los Rios S. | M Venus 3 | Mazatlan, Sin. |
| . Horacio Quintanilla | A. Flores #429 | Mazatlan, Sin. |
| . Juan Renteria Garcia | 5 de mayo y M. Ocampo | Mazatlan, Sin. |
| . Daniel Urrea | 5 de Mayo 51 Nte | Mazatlan, Sin. |
| . Alberto Tripp Flores | N. Escobedo 82 Pte | Mazatlan, Sin. |
| . Guillermo Hernandez | 5 de Mayo 28 Nte | Mazatlan, Sin. |
| . Jose Villa Garcia | Casa Redonda 18 | Mazatlan, Sin. |
| r. Frank D. Morrison | 1001 North Swan | Tucson, Ariz. |
| r. Stuart Sanger | 123 Stone Ave. | Tucson, Ariz. |
| r. C. H. Newcombe | 3744 Calle Cortez | Tucson, Ariz. |
| r. John J. McEvers | 101 North Swan | Tucson, Ariz. |
| r. Hugh H. McFadyen | 5417 E. Holmes | Tucson, Ariz. |
| r. Heim Delmer J. | 116 N. Tucson Blvd. | Tucson, Ariz. |
| r. James M. Fritz | 4033 Kilmer | Tucson, Ariz. |
| r. Juan E. Fonseca | 2409 Adams Street | Tucson, Ariz. |
| r. Wesley S. Fee | 2421 E. 6th St. | Tucson, Ariz. |
| r. Henry J. Kurten | 3455 Via Guadalupe | Tucson, Ariz. |
| r. Delbert W. Hess | 5445 6th Ave. | Tucson, Ariz. |
| r. Donald F. Hill | 2430 East 6th St | Tucson, Ariz. |
| r. Gordon Hippert | 130 South Scott St. | Tucson, Ariz. |
| r. W. R. Manning | 770 N. Country Club Rd. | Tucson, Ariz. |
| r. William G. Shultz | 1010 N. Country Club | Tucson, Ariz. |

Dr. Harry E. Thompson signing the scroll

*List continues on next page*

| | | |
|---|---|---|
| Dr. Robert E. Hastings | 1014 N. Country Club | Tucson, Ariz. |
| Dr. Harry E. Thompson | 433 N. Tucson Blvd. | Tucson, Ariz. |
| Dr. Leo J. Kent | 3131 E. 2nd. St. | Tucson, Ariz. |
| Dr. David E. Engle | 1619 N. Tucson Blvd. | Tucson, Ariz. |
| Dr. Jackman Pyre | 123 South Stone St. | Tucson, Ariz. |
| Dr. J. Wright Cortner | 2415 East Adams St. | Tucson, Ariz. |
| Dr. Carl H. Gans | P.O. Box 95 | Morenci, Ariz. |
| Dr. Fred Gutckunst | 2804 Pershing Ave. | San Bernardino, Cal. |
| Dr. Willard M. Gobbell | 16100 Ventura Blvd. | Encino, Calif. |
| Dr. John D. Flanagan | 8304 South 12th St. | Coos Bay, Ore. |
| Dr. R. M. Flanagan | 587 North 4th St. | Coos Bay, Ore. |
| Dr. L. Maxwell Lockie | 40 North Street | Buffalo, N.Y. |
| Dr. G. Calvin Williamson | 407 16th St. | Yuma, Ariz. |
| Dr. James Volpe | 1801 6th Ave. | Yuma, Ariz. |
| Dr. V. Eugene Frazier | 116 N. Fraser Dr. | Mesa, Ariz. |
| Dr. Walter B. Lee | 24 N. Hibbert St. | Mesa, Ariz. |
| Dr. Donald E. Nelson | 5035 3rd. Ave. | Safford, Ariz. |
| Dr. Richard G. Hardenbrook | | Bagdad, Ariz. |
| Dr. Robert P. Watterson | 523 Scottsdale Rd. | Scottsdale, Ariz. |
| Dr. Albert J. Harris | 185 E. Cedar St. | Globe, Ariz |
| Dr. Robert F. Easley | 1615 N. 3rd Ave. | Glendale, Ariz. |
| Dr. Jessee E. Jacobs | Box 1208 | Miami, Ariz. |
| Dr. John A. Ash | 3324 N. 6th Ave. | Phoenix, Ariz. |
| Dr. Paul E. Sadler | 1324 W. Georgia St. | Phoenix, Ariz. |
| Dr. Norman A. Ross | 15 East Monroe St. | Phoenix, Ariz. |
| Dr. Gordon Geisler | 7817 N. 16th Drive | Phoenix, Ariz. |
| Dr. John L. Ford | 814 W. Avalon | Phoenix, Ariz. |
| Dr. Carlos V. Greth | 1301 East Missouri | Phoenix, Ariz. |
| Dr. L. D. Beck | 1626 North Central | Phoenix, Ariz. |
| Dr. Charles Kalil | 1300 East Missouri | Phoenix, Ariz. |
| J. Rukin Jelks Jr. | 6745 N. 7th Ave. | Phoenix, Ariz. |
| Dr. T. H. Taber | 3639 E. Picadilly Rd. | Phoenix, Ariz. |
| Dr. Robert L. Gullen | 550 W. Thomas Rd. | Phoenix, Ariz. |
| Dr. A. F. Morrison | 2219 W. Bethany Home Rd. | Phoenix, Ariz. |
| Dr. R. H. Thomas | 54 W. State Ave. | Phoenix, Ariz. |
| Dr. John F. Westfall | 926 E. McDowell Rd. | Phoenix, Ariz. |
| Dr. Frank W. Edel | 738 E. McDowell Rd. | Phoenix, Ariz. |
| Dr. Angus J. de Pinto | 1804 Palmcroft Way NW | Phoenix, Ariz. |
| Dr. Hilary D. Ketcherside | c/o Arizona Club | Phoenix, Ariz. |

# *Future Medical Meetings*

The following institutions and organizations have been accredited for their continuing medical education programs by the Liaison Committee on Continuing Medical Education

Arizona Chapter, American Cancer Society
Arizona Heart Institute
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoenix
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program, (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

## JANUARY

**Trauma Care: 82**
January 17-21, 1982. Alamos Resort, Scottsdale. Sponsor: John C. Lincoln Hospital & Lincoln Institute of Surgery and Trauma. Contact: Paul K. Halverson, Symposium Dir., Lincoln Institute of Surgery & Trauma, 9211 North 2nd St., Phoenix, AZ 85020. Category 1 CME credit has been applied for.

**Tenth Annual Surgical Symposium**
January 18-22, 1982. La Posada Resort, Scottsdale. Sponsor: Maricopa County General Hospital, and Phoenix Surgical Society. Contact: The Phoenix Surgical Society, 333 West Thomas Road, Phoenix, AZ 85013. Approved for 31 hours of category 1 credit.

**ECG Interpretation and Arrhythmia Management**
January 19-21, 1982. La Posada Resort, Scottsdale. Sponsor: International Medical Education Corp. Contact IMEC, Division of Postgraduate Education, 64 Inverness Drive East, Englewood, Co 80112. Approved for 1 hours of Category 1 credit.

**Sports Medicine for the Primary Care Physician**
January 25-29, Plaza International Hote Tucson, Arizona. Sponsor: Internationa College of Surgeons, and Sports Medicin Clinic of Tucson. Contact: Richard A. Silve M.D., Medical Director, Sports Medicin Clinic of Tucson, P.O. Box 50187, Tucso Arizona 85703. Approved for 25 hours Category 1 credit.

**Instruction Course — Cataract Extraction Intraocular Lens Implantation.**
January 27-29, 1982. Phoenix, Arizon Sponsor: The Eye Foundation. Contac Ronald W. Barnet, M.D., The Eye Foundatio 421 N. 18th Street, Ste 105, Phoenix, A 85006.

**Advanced Trauma Life Support Course**
January 28-29, 1982. John C. Lincol Hospital, Phoenix. Sponsor: U of A College Medicine. Contact: Office of Continuin Medical Education and Outreach, U of Health Sciences Center, Tucson, AZ 8572 Approved for hour per hour Category credit.

## FEBRUARY

**2nd Annual ACEP Symposium — Resuscitation "Pitfalls, Pearls and Promise**
February 3-5, 1982. La Posada Reso Scottsdale. Sponsor: Arizona Chapte ACEP. Contact: Beverly Richter, ACE Office, 810 W. Bethany Home Road, Phoeni AZ 85013.

**29th Annual Scientific Assembly — Arizo Academy of Family Physicians**
February 4-7, 1982. Alamos Reso Scottsdale. Sponsor: ACFP. Contact: Arizo Academy of Family Physicians, 8534 Amelia Ave., Scottsdale, AZ 85251. Approv for 17½ hours of Category 1 credit.

**8th Annual Sports Medicine Symposium**
February 5-7, 1982. Holiday Inn Metrocent Phoenix. Sponsors: Arizona Medical Asso Arizona Osteopathic Medical Assoc., Arizo Interscholastic Assoc. Contact: Nikki Mert ArMA, 810 West Bethany Home Rd., Phoeni AZ 85013. Approved for 7 hours of Category credit.

**Clinical Seminar Series "Psychiatry"**
February 6, 1982. U of A Health Scienc Center, Tucson. Sponsor: U of A College Medicine. Contact: Office of Continui Medical Education & Outreach, U of A Heal Sciences Center, Tucson, AZ 8572 Approved for hour per hour Category credit.

**Southwestern Seminar on Neurological & Neuromuscular Disorders**
February 11-13, 1982. Main Auditorium, Health Sciences Center, Tucson, A Sponsor: University of Arizona College Medicine. Contact: Office of Continui Medical Education & Outreach, U of A Heal Sciences Center, Tucson, AZ 8572 Approved for Category 1 credit.

**International Cataract Surgery Symposiu 1982**
February 15-17, 1982. The Alamos Reso Scottsdale, Arizona. Sponsor: The E

undation. Contact: The Eye Foundation, 1 N. 18th St., Ste 105. Phoenix, Arizona 006.

**diatric Update 1982**
bruary 15-18, 1982. La Posada Resort tel, Scottsdale, Arizona. Sponsor: St. seph's Hospital and Medical Center, Dept. Pediatrics. Contact: Ronald A. ristensen, M.D., Department of Pediatrics, Joseph's Hospital and Medical Center, 0 West Thomas Road, Phoenix, AZ 85013. proved for 16 hours of Category 1 Credit.

**ontiers in Ophthalmology**
bruary 18-20, 1982. Arizona Biltmore, oenix. Sponsor: St. Luke's Hospital edical Center. Contact: Christine mpbell, Meeting Planner, St. Luke's spital Medical Center, 525 N. 18th Street, oenix, AZ 85006. Approved for Category 1 edit.

**ining In Structural Family Therapy**
bruary 20-24, 1982. Sponsor: Philadelphia ild Guidance Clinic and Arizona Family arning & Communications Center. ntact: Arizona Family Learning & mmunications Center, Metro Medical za, Ste B403, 3201 W. Peoria Ave., oenix, AZ 85029. Approved for Category 1 dit on an hour per hour basis.

**dulation & Mediation of ncer By Vitamins**
bruary 23-26, 1982. U of A Cancer Center, cson. Sponsor: U of A College of Medicine. ntact: Mary Humphrey, Cancer Center ision U of A Health Sciences Center, cson, AZ 85724. Approved for hour per tegory 1 credit.

**h Annual Mid-Winter Symposium OB/GYN**
bruary 24-26, 1982. Scottsdale Hilton tel. Sponsor: Maricopa County General spital and Phoenix OB/GYN Society. ntact: The Secretary, Phoenix OB/GYN ciety, 333 East Virginia, Ste 222, Phoenix, 85004.

**venth Annual Day of Medicine: Critical e Medicine**
bruary 26, 1982. Arizona Biltmore, oenix. Sponsor: St. Joseph's Hospital and dical Center and Flinn Foundation. ntact: Darlene Graham, Dept. of Internal dicine. St. Joseph's Hospital and Medical nter, P.O. Box 2071, Phoenix, AZ 85001. proved for 6 hours of Category 1 credit.

**h Annual Taos Lung Disease Symposium**
bruary 26-28, 1982. Taos, New Mexico. onsor: American Thoracic Society, New xico Chapter. Contact: New Mexico apter of the American Thoracic Society, Truman NE, Albuquerque, New Mexico 08.

## MARCH

**ergency Care Conference**
rch 1-3, 1982. Westward Look Resort, son. Sponsor: U of A College of Medicine. ntact: Office of Continuing Medical cation and Outreach, U of A Health ences Center, Tucson, AZ 85724. proved for hour per hour Category 1 dit.

**Sixth Valley of The Sun Dermatology Symposium**
March 3-7, 1982. Del Webb's La Posada Resort, Sponsor: Phoenix Dermatologic Society. Contact: Joseph M Scherzer, M.D., 7354 Fourth Street, Scottsdale, AZ 85251.

**Changes & Controversies in Pediatrics**
March 4-7, 1982. Marriott Hotel, Tucson. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education and Outreach, U of A Health Sciences Center, Tucson AZ 85724. Approved for hour per hour Category 1 credit.

**Advanced Trauma Life Support Course**
March 5-7, 1982. Westward Look Resort, Tucson. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medicine Education and Outreach, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Occupational and Environmental Health in Family Medicine: Clinical and Education Issues**
March 8-9, 1982. Sponsor: College of Medicine, Dept. of Family & Community Medicine and Az Center of Occupational Safety and Health. Contact: Kathleen M. Rest, M.P.A., U of A Health Sciences Center, Az Center of Occupational Safety & Health, Tucson, AZ. Approved for 15 hours of Category 1 credit.

**Gastroenterology for Clinicians**
March 8-10, 1982. Ramada Safari Resort, Scottsdale. Sponsor: Good Samaritan Hospital and Samaritan Health Service/Sun memorial Institute. Contact: David C.H. Sun Memorial Institute, 4129 E. Sandy Mountain Road, Scottsdale, Az 85253. Approved for 16½ hours of Category 1 credit.

**Instruction Course — Cataract Extraction & Intraocular Lens Implantation.**
March 10-12, 1982. Phoenix, Arizona. Sponsor: The Eye Foundation. Contact: The Eye Foundation, 421 North 18th Street, Phoenix, AZ 85006.

**Ninth Annual Barrow Neurological Symposium**
March 11-13, 1982. La Posada Inn Resort, Phoenix. Sponsor: St. Joseph's Hospital and Medical Center, Barrow Neurological Institute. Contact: Richard A. Thompson, M.D., 222 West Thomas Road, Phoenix, Arizona 85013. Approved for 15 hours of Category 1 credit.

**Clinical Seminar Series "Endocrinology"**
March 13, 1982. Granda Royale, Phoenix. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education & Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**4th Annual Symposium on current Concepts in the Management of Acute and Chronic Pain**
March 13-14, 1982. Scottsdale Hilton. Sponsor: Maricopa County General Hospital. Contact: Office of CME, MCGH, 2601 E Roosevelt, Phoenix, AZ 85008. Approved for 15 hours of Category 1 credit.

**1st Symposium on Hematologic Malignancies**
March 14-21, 1982. Keystone Lodge, Colorado. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education & Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**New Horizons in Medicine**
March 18-19, 1982. Good Samaritan Hospital. Sponsor: Good Samaritan Hospital, Div. Continuing Medical Education. Contact: Imre Sandor, M.D., Chairman, CME Committee, Good Samaritan Hospital, 1033 E. McDowell Road, P.O. Box 2989, Phoenix, AZ 85062. Approved for 10 hours of Category 1 credit.

**Injuries of the Hand — Acute Care and Rehabilitation**
March 18-20, 1982. La Posada Resort, Phoenix. Sponsor: American Society for Surgery of the Hand. Contact: ASSH, 2600 South Parker Road, Ste 132, Aurora, Colorado 80014. Approved for 16 hours of Category 1 credit.

**Diagnosis and Therapy of Cardiac Disorders**
March 18-20, 1982. Scottsdale Hilton. Sponsors: ArMA and Postgraduate Medical Fourm, Inc. Contact: Daniel S. Duick, M.D., P.O. Box 32567, Phoenix, AZ 85064. Approved for hour per hour Cagetory 1 credit.

**8th Annual Urological Seminar**
March 20-21, 1982. Alamos Resort, Scottsdale. Sponsor: Maricopa County General Hospital. Contact: Office of CME, MCGH, 2601 E. Roosevelt, Phoenix, Arizona 85008. Approved for 14 hours of Category 1 credit.

**Instruction Course — Cataract Extraction & Intraocular Lens Implantation**
March 24-26, 1982. Phoenix, Arizona. Sponsor: The Eye Foundation. Contact: Ronald W. Barnet, M.D., 421 N. 18th Street, Ste 105, Phoenix, AZ 85006.

**St. Luke's Focus '82, Thoracic Medicine**
March 29-31, 1982. Los Alamos Hotel, Scottsdale. Sponsor: St. Luke's Hospital. Contact: Christine Campbell, Meeting Planner, St. Luke's Hospital Medical Center, 525 North 18th Street, Phoenix, AZ 85006. Approved for hour per hour Category 1 credit.

## APRIL

**Arizona Chest Symposium**
April 1-3. Doubletree Inn, Tucson, Arizona. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education and Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Malignancy**
April 7. Arizona Health Sciences Center. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Educaiton and Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Pan American Cataract & Intraocular Lens Symposium**
April 17-19. Scottsdale Hilton. Sponsor: American Society of Contemporary Ophthalmology and the Sight Foundation. Contact: The Sight Foundation, Inc., 10503 Thunderbird Blvd., Ste 9, Sun City, AZ 85351. Approved for 16 hours of Category 1 credit.

**7th Annual Update**
**Primary Care**
April 20-24. Arizona Health Sciences Center, Tucson. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education and Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Southwestern Cardiac Symposium**
April 30- May 1. Hyatt Regency, Phoenix. Sponsor: St. Luke's Hospital and Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital & Medical Center, Phoenix, AZ 85006. Approved for hour per hour Category 1 credit.

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doctors Hospital, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

**Office Psychiatry for the Primary Provider**
2nd Monday of month, 4811 N. 7th Street, Phoenix, AZ. Sponsor: Arizona Health Plan. Contact: T.R. Bittker, M.D., Box 5000, Phoenix, AZ 85010. Approved for Category 1 credit.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Phoenix Psychiatric Council. Contact: James E. Campbell, M.D., 5051 N. 34th St., Phoenix, AZ 85018. Approved for 2 hours Category 1 credit.

**Monthly Meeting of Tucson Radiologists**
Last Tues. of month. Plaza International, Tucson, AZ. Sponsor: U of A Medical Center, Dept. of Radiology. Contact: Irwin M. Freundlich, M.D., U of A Health Sciences Center, Dept. of Radiology, Tucson, AZ 85724. Approved for 2 hours Category 1 credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix: 1st Tues.—Phoenix Indian Hospital, 2nd Tues.—Maricopa County Hospital, 3rd Tues.—Good Samaritan Hospital, 4th Tues.—St. Joseph's Hospital. Sponsor: Maricopa County Hospital (Phoenix Hospital's Affiliated Pediatric Program). Contact: J. Kipp Charlton, M.D., 2601 E. Roosevelt, Phoenix, AZ 85008. Approved for 1 hour per session Category 1 credit.

**Review of Forensic Pathology Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

### ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,000, Phoenix, AZ 85064. Contact: Ravi Koopot, M.D.
**Clinical Conference**
**Cardiovascular Medicine**
Third Tues., 5:15 p.m., second floor classroom

### ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 85008. Contact: Arnold L. Kendall, M.D.
**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. Rm., Contact: Dr. Conger & Staff
**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Services Bldg., Conf. Rm.
**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. Conf. Rm.

### BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St Joseph's Hospital & Medical Center. Contact: John R. Green, M.D. Approved for 1 hour Category 1 credit.
**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.
**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and third and 5th, Eighth Floor Conference Room.
**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurology conference room.
**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.
**Neuro-opthalmology Conference.**
Weekly, 7:30 a.m., 8th floor conference Rm.
**Neuropathology of Gross Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.
**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conference Rm.
**Neuropathology or Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conference Rm.
**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference Rm.
**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

### WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, ED.D., Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, Ju
Sept. & Nov.
**Tumor Board**
Last Thursday of the month, 12 Noon, Ed
Center Classroom I & II, May, July, Sept.
Nov.
**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classroom
& II. Contact: Brian Updegraff, M.D.

### CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Spons
Camelback Hospital. Contact: T. F. Reid, J
M.D.
**Clinical Conference**
3rd Tuesday, 8-9 a.m.

### DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizo
Contact: L.A. Rosati, M.D. Approved
category 1 credit.
**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West E
**Clinical Conference — Dept. of Medicine**
Weekly Thurs., 12:30-1:30 p.m. Buffet Lun
Grande Rm.
**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande R
**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2

### DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizo
86016 Contact: Medical Staff Secretary
additional information.

**Physicians Continuing Education Progra**
1st Thursday, 12:30 p.m., Classrooms.

### EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 857
Contact: Eric G. Ramsay, M.D. Approved
Category 1 credit.
**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Se
and December) Contact: R. Grossman, M

### FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 12
Flagstaff AZ 86002. Contact: B.
Hirschberg, M.D., CME Program Clini
Conference. Approved for category 1 cre
**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.
**Clinical Conferences**
Weekly Tuesdays, 12:30 p.m., Tollefson
**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf.
**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf.

### GOOD SAMARITAN HOSPITAL

1033 East McDowell Rd., Phoenix,
Contact: W. J. Howard, M.D. Approved
category 1 credit.
**Anatomical Path. & Cytology**
Weekly, Mondays 4:00-5:00 p.m., S-4 C
Rm.
**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., West Rm

St. Luke's

FOCUS '82

*A seminar on thoracic medicine*

**March 29-31, 1982**

**The Alamos Resort Hotel**

**Scottsdale, Arizona**

**Course Description:**

*The three-day seminar will focus on the latest developments in the areas of bronchogenic carcinoma and coccidioidomycosis. The role of immunotherapy in bronchogenic carcinoma, CT scanning of solitary pulmonary nodules, and the appropriate use of broncho-plastic procedures with bronchogenic carcinoma will be some of the topics discussed. Cocci related topics to be covered will include the role of immunotherapy in cocci, the current status of cocci vaccines, and cocci in the immuno suppressed patients.*

**Faculty:**

*Bronchogenic Carcinoma—F.G. Pearson, M.D., Toronto, Canada • Richard Matthay, M.D., New Haven, Connecticut • Frederick P. Stitik, M.D., Norfolk, Virginia*

*Coccidioidomycosis—Antonio Catanzaro, M.D., San Diego, California • Demosthenos Pappagianis, M.D., Davis, California • John Galgiani, M.D., Tucson, Arizona*

**Sponsored by St. Luke's Hospital Medical Center**

**Phoenix, Arizona**

*For additional information, write or call:*
*Christine Campbell/Medical Meeting Planner*
*St. Luke's Hospital Medical Center*
*525 North 18th Street/Phoenix, Arizona 85006*
*(602) 251-8402*

**onday Noon Conference**
eekly, 12:00-1:00 p.m. R-2 Conf. Rm.
**ortality/Morbidity, Surgery Comm.**
d Monday, 11:30-2:00 p.m., West Rm.
**ostetrical Section Conference**
t Monday, 12:30-1:30 p.m., West Rm.
**lmonary Disease Grand Rounds**
eekly, 12:00-1:00 p.m., D-5 North
**mily Practice Conference**
eekly, Tuesday, 12:00-1:00 p.m., Fam. actice Conf. Rm.
**diatric Grand Rounds**
d. Tuesday, 7:30-8:30 a.m., Contact: Paul rgeson, M.D.
**oenix Plastic Surgery**
**sidency Conference**
eekly, 5 p.m.-6 p.m., Education Building, ntact: Robert McGregor, M.D.
**l & R Noon Inservice**
d & 4th Tuesday, 12 Noon, R-2 Conference n.
**nical Cancer Fourm**
l Wednesday, 12:00-1:00 p.m., West Rm, ntact: John A. Bruner, M.D.
**mbined Cardiovascular & Family Practice nf.**
2nd, & 4th Wed., 12:00-1:00 p.m., D-5 rth.
**arning Disabilities**
eekly, 10:30-12:30 p.m., R-2 Conf. Rm.
**BGYN Dept. Review & Statistics**
eekly, 12:30-3:00 p.m., OBGYN Conf. Rm.
**necological Pathology**
eekly, Thursday, 1:00-2:00 p.m., S-4 Conf. n.
**Radiology Conference**
Thursday, 12:00-1:00 p.m., F151, Radiology Conf. Rm.
**Phoenix Ultrasound Soc. Meeting.**
Medical Education Building, Contact: Dr. Ben Ora
**Neurology Grand Rounds**
Weekly, Thursday, 9:00-10:00 a.m., D-5 North.
**Surgical Grand Rounds**
Weekly, 7:00-8:30 a.m., East Room
**Tumor Treatment Planning Conf.**
2nd & 4th Thursdays, 12:00-1:00 p.m., F151 Radiology
**Joint Tumor Gyn Conference**
2nd Friday, 12:30-1:30 p.m., West Rm.
**Medical Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., West Rm.
**Neuropathy Conference**
Last Friday, 1:15-2:15 p.m., S-4 Morgue.
**Psychiatry Grand Rounds**
Weekly Friday, 11:30-1:00 p.m., East Rm.

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.

**Medical Conference**
Weekly, 12:30 p.m., Contact: Chief Medical Resident.
**Surgical Connference**
Weekly, Mondays, Contact: R. Fischer, M.D.
**Cardiology Conference**
4th Tuesday, 12:30 p.m., Contact: B. Phibbs, M.D.
**Clinical Pharmacology Conference**
5th Tuesday, 12:30 p.m., Contact: M. Katz, Clinical Pharm.
**Neurology Conference**
1st & 3rd. Tuesday, 12:30 p.m., Contact: J. Laguna, M.D.
**Radiology Conference**
2nd Tuesday, 12:30 p.m., Contact: M. Baker, M.D.
**Medical Conference**
Weekly, Thursday, 12:30 p.m., Contact: Chief Medical Resident
**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.m., Contact: J Wurzel, M.D.
**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.
**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chief Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Clinical Conferences**
2nd & 4th Wednesday, 12-1 p.m., Medical Staff Lounge

## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.
**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.
**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.
**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz Room
**Obstetrical Problem Conference**
Weekly Tuesday, 7:30 a.m., Yavapai Rm.
**Orthopedic Conference**
Weekly Tuesday, 7:30 a.m., Santa Cruz Rm.
**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m.,Contact: Robert Ganelin, M.D.
**Urology Discharge Planning Conference**
Weekly, 11:30 a.m., Station 42
**Hand Surgery Conference**
Weekly Wed, a.m., Santa Cruz Rm.
**Neurosurgery Discharge Planning**
Weekly Wed., 1:30 p.m., Station 42.
**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.
**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental Health Annex, Rm. 1346.
**Surgery Conference**
Weekly Wed., 7-8 a.m., Surgical Dept.
**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.
**Cardiology Conference**
Weekly Thurs., 2 p.m., Santa Cruz Rm.
**OB/GYN Resident Conference**
Weekly Thurs., 12 p.m., Yavapai Rm.
**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Rm.
**OB/GYN Surgical Pathology Conf.**
Weekly Friday, 7:30 a.m., Yavapai Rm.
**Orthopedic X-Ray Conference**
Weekly Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: Daniel J. Kuntz, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015. Contact: Leonard M. Lapenson, M.D., Approved for Category 1 credit.

**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.
**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for category 1 credit.

**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.

# Flexible Sigmoidoscopy

## A course for the primary care physician

Friday and Saturday, February 26-27, 1982
at The Alamos Resort, Scottsdale

The two-day program will include presentations on the role of flexible sigmoidoscopy in cancer surveillance, the diagnosis of colon lesions, patient preparation, examination techniques, and equipment maintenance. Saturday practicum session at St. Luke's Medical Center.
The program has been approved for 8 hours of Category 1 CME credit.

**Sponsored by the Department of Gastroenterology at St. Luke's Medical Center, Phoenix in conjunction with the Arizona Society of Gastrointestinal Endoscopy, and the Phoenix Society of Gastroenterology.**

**For additional information, contact:**

Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center, 525 North 18th Street
Phoenix, Arizona 85006
(602) 251-8402

**Clinical Staff Teaching Conference, Rm. A.**
Wed. Weekly, 8:00 a.m.
**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact: N. Wendell Tood, M.D.
**Family Practice/Emergency Room Teaching Conference**
Thursday Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.

**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.
**Clinical Conferences**
Weekly Tuesday, 12:30 p.m., Kiva Conference Rm.
**Tumor Board Conference**
Weekly Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.

**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge
**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge
**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge
**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge
**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge
**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge
**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Loung
**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge
**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge
**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lounge
**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Loung
**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Loung
**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 850
Contact: Joseph C. White, M.D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Fl
Conf. Rm.
**Genetics Conference**
Weekly Monday, 12:30 p.m., Pediat
Department.
**Pediatric Rounds**
Weekly Monday, Wed. & Friday, 10:30 a.
Pediatric Department.

**diatric Grand Rounds**
ı Tuesday, 7:30-8:30 a.m., Contact: J. Kipp
arlton, M.D.
**G Conference**
eekly Tuesday, 12:30 p.m., Pediatric
partment.
**edical Grand Rounds**
eekly Wednesday, 8 a.m., 1st Floor Conf.
om.
**siting Professor Formal Presentation**
eekly Thursday, 8 a.m., PIMC
**siting Professor Informal Presentation**
eekly Thursday, 9:30 a.m., 1st floor Conf.
ı.
**siting Professor Formal Presentation**
eekly Thursday, 12:30 p.m., PIMC
**phrology Conference**
eekly Fridays, 12:30 p.m., Pediatric
partment.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

N. Wilmot Road, Tucson, AZ. Contact:
c G. Ramsay, M.D. Approved for Category
redit.
**mily Practice Department Meeting**
Tuesday, 12 p.m., Contact: Wm.
teforte.
**hthalmology Morbidity/Mortality Conf.**
Tuesday, 12:15 p.m., Contact: Kim
vards.
**rrent Concepts in Medicine**
ekly, Tuesday, 12 p.m., Auditorium.
**matology-Oncology Conference**
t Wednesday, 12:15-1:15 p.m., Contact: S.
mon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

North 18th Street, Phoenix, AZ, Contact:
rald L. Hansbro, M.D.

**rdiac Conference**
ekly Monday, 12:15 p.m., Auditorium
**est Conference**
Monday, 12:15 p.m., Phillips Auditorium
**gery Conference**
Tuesday, 12:15 p.m., Auditorium
**ergency Medicine Conference**
Wednesday, 12:15 p.m., Auditorium
**rdiovascular-Thoracic Record Review**
Wednesday, 12:15 p.m., Auditorium
**monary Case Conferences**
Thursday, 7:30 a.m., Phillips Auditorium
**chiatry Conference**
Thursday, 7 a.m., Auditorium
**mbined Medical General**
**ctice Conference**
Friday, 12:15 p.m., Auditorium
**cicology Grand Rounds**
Friday, 7:30 a.m., Auditorium
**hthalmology Conference**
Saturday, 8:30 a.m., Auditorium

## ST. MARY'S HOSPITAL & HEALTH CENTER

1 W. St. Mary's Road, Tucson, AZ 85703.
tact: see below.
**thly Specialty Conference —**
**t. of Surgery**
Monday, 7:30 a.m., Century Rm. A.,
tact: Med. Staff Office.
**nd Rounds: Medical Surgical, Family**
**ctice, Pathology, Radiology**
ekly Thursday

**Emergency Medicine Lectures**
Weekly Thursday, 8 a.m., Century Room A.
**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm. A.
**Cardiology Conference**
Weekly Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Cardiology Conference**
Weekly Monday, except last, 12 Noon, Contact: M. Maximov, M.D.
**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. Miller, M.D.
**Endocrinology Conference**
Last Monday, 12 p.m., Contact M. Parker, M.D.
**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Lohman, M.D.
**Surgical Dept. Conference**
2nd Monday, 12 Noon: Contact: C. Peter Crowe, Jr., M.D.
**Chest Conference**
1st Tuesday, 12 noon, Contact: William Nevin, M.D.
**Hematology Conference**
4th Tuesday, 12 Noon, Contact: M. Boxer, M.D.
**Infectious Disease Conference**
3rd Tuesday, 12 noon, Contact: B. Friedman, M.D.
**Nephrology Conference**
2nd Tuesday, 12 noon, Contact: Dr. Seltzer.
**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay Katz, M.D.
**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact: Dr. Lightner.
**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Foote, M.D.
**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.
**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, July, & Oct. Contact: C. Mangelsdorf, M.D.
**Medical Conference**
Weekly Wednesday, (except last), 8:00 a.m., Contact: M. Fuchs, M.D.
**Neurology-Neurosurgery Conference**
Weekly Wednesday, 12 noon, Contact: H. W. Buschsbaum, M.D.
**Dermatology Conference**
1st Thursday, 12 noon, Contact: R. Friedman, M.D.
**Neuroradiology Conference**
Weekly Thursday, 5:00 p.m., Contact: N. Komar, M.D.
**Tumor Conference**
Weekly Thursday, 12 noon, Contact: Cancer Committee.
**Pulmonary/Infectious Disease**
**Case Conference**
2nd Thursday, 7:30 a.m., Contact: William Nevin, M.D.
**G—I Conference**
Weekly Friday, 12 noon, Contact: George Kerrihard, M.D.

**Interhospital Nuclear Medicine Conference**
Weekly Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.
**OB/GYN Conference**
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.
**OB/GYN Pathology Conference**
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

**GI X-Ray Clinical Correlation Conf.**
1st & 3rd Monday, 1 p.m., Rm. C435, Contact: Drs. Sanowski, & Nielsen.
**Medical/Surgical GI Conference**
1st & 3rd. Mondays, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.
**GI Pathology Conf.**
2nd. & 4th Monday, 1 p.m., Path Conf. Rm, Contact: Dr. Sanowski..
**Orthopedic Surgery Conference**
2nd. Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.
**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 2128, Contact: Dr. Mertz & Dr. Lanard.
**Vascular Conference**
2nd Monday, 3 p.m., Rm. 3134, Contact: Dr. Cintora
**GI Grand Rounds**
Weekly Tuesday, 1 p.m., Contact: Drs. Sanowski, Kozarek, after GI Grand Rounds Rm T-5.
**Housestaff Pulmonary Disease Teaching Conf.**
Weekly Wed., 3-4 p.m., Rm. 4115, Contact: Dr. Rohwedder, Ext. 388.
**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habibzedeh
**Medical Surgical Chest Conference**
1st & 3rd Thursday, Contact: Dr. Rohwedder or Dr. Gill.
**GI Consultant Rounds**
1st Thursday, 1:30 p.m., Rm. T-5.
**Medical Service Grand Rounds**
Weekly Friday, 11 a.m., Rm. T-5, Contact: Dr. Zeller
**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

## PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
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INTERNATIONAL CATARACT SURGERY SYMPOSIUM · 1982

The Alamos Resort · February 15-16-17, 1982 · Scottsdale, Arizona

Faculty

Ronald W. Barnet, M.D.
Mr. D. Peter Choyce
Jonathan Herschler, M.D.
Charles D. Kelman, M.D.
Larry G. Leiske, M.D.
Steven P. Shearing, M.D.
John H. Sheets, M.D.
William C. Simcoe, M.D.
Robert M. Sinskey, M.D.
Harold A. Stein, M.D.
Jerald L. Tennant, M.D.
J. G. F. Worst, M.D.

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Scientific Program

Monday, February 15, 1982
7:30 - 8:00 Breakfast (complimentary)
In The Exhibit Area
8:00 - 8:40 Worst: Special Presentation -
Intraocular Lens Implants, Part I
8:45 - 10:15 (Instruction Course A) Leiske:
The Leiske IOL
(Instruction Course B) To be announced
10:15 - 10:35 Break - Visit Exhibits
10:35 - 11:15 Stein: Special Presentation - Alphakic
Contact Lenses
11:15 - 11:55 Herschler: Special Presentation - Glaucoma
11:55 - 12:55 Lunch (Complimentary)
In The Exhibit Area
12:55 - 2:25 (Instruction Course C) Choyce:
The Choyce IOLs
(Instruction Course D) Aphakic -
Contact Lenses - To be announced
2:30 - 4:00 (Instruction Course E) Tennant:
The Tennant IOLs
(Instruction Course F) Barnet:
The Transiridectomy - Clip IOL
5:00 - 7:00 Welcoming Cocktail Party (Complimentary)

Tuesday, February 16, 1982
7:30 - 8:00 Breakfast (Complimentary)
In the Exhibit Area
8:00 - 8:40 Worst: Special Presentation -
Intraocular Lens Implants, Part II
8:45 - 10:15 (Instruction Course G) Simcoe:
The Simcoe IOL
(Instruction Course H) Kelman:
The Kelman IOLs
10:15 - 10:35 Break - Visit Exhibits
10:35 - 11:55 Faculty Discussion and Questions from
The Audience
11:55 - 12:55 Lunch (Complimentary)
In The Exhibit Area
12:55 - 2:25 (Instruction Course I) Stein: The iris-suture
IOL and The Severin IOL for Intracapsular
Extraction
(Instruction Course J) Sheets:
The Sheets IOL
2:30 - 4:00 (Instruction Course K) Shearing:
The Shearing IOL
(Instruction Course L) Aphakic Contact
Lenses - To be announced

Wednesday, February 17, 1982
7:30 - 8:00 Breakfast (Complimentary)
In The Exhibit Area
8:00 - 8:40 Worst: Special Presentation -
Intraocular Lens Implants, Part III
8:45 - 10:15 (Instruction Course M) Sinskey:
The Sinskey IOL
(Instruction Course N)
To be announced
10:15 - 10:45 Break - Final opportunity to visit
exhibits
10:45 - 12:05 Faculty Discussion and Questions
From The Audience
12:05 Lunch (Complimentary)

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**Medical Surgical Chest Conference**
Weekly Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Conf.**
Weekly Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for category 1 credit.

**Radiology Conference**
1st Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Tuesday, 6:30 p.m.

**Pathology Conference**
4th Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Wednesday, 7:00 a.m.

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**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.

**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly Thursday, 4-5 p.m., Room 5403

**Anesthesiology Case Discussion**
Weekly Wed., 7:00 a.m., AHSC, Dining Rm. C&D.

**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.

**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center

**Cardiac Catheterization Conference**
Weekly Friday, 4:00 p.m., Contact: Dr. Temkin.

**Cardiology Research Conference**
Weekly Tuesday, 7:30 a.m., Contact: Dr. Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505. Contact: Jerry Goldston, M.D., Departme of Surgery.

**Dermatology Rounds**
Weekly Wed., 11:30 a.m., Contact: Dr. Lyn

**Endocrinology Seminar**
Weekly Thursday, 12-1 p.m., Contact: Johnson

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contac: Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: Paplanus

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHS Contact: Dr. T. Hunter

**Head & Neck Tumor Management Conference**
Weekly Wed., 4:00 p.m., Contact: Manning

**Hematology-Oncology Clinical Conferenc**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 65 Contact: S. Salmon, M.D., Dept. of Interr Medicine.

**Medical Grand Rounds**
Weekly Wed., 12-1 p.m., AHSC, Contact: J. Smith.

**Neuromuscular Disease Conference**
Weekly Friday, 11:30 a.m., Contact: Dr. Ste

**Neuropathology Review Conference**
Thursdays, 8:30 a.m., Rm. 5120, UAHSC.

**Neuroradiology Conference**
Weekly Thurs., 5:00 p.m., Contact: Dr. P. Christenson

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**Symposium Co-Chairmen:**

George Bandy, M.D., Cardiology
Cecil C. Vaughn, M.D., Cardiovascular Surgery

**For additional information, contact:**

Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center
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(602) 251-8402

**euromuscular Journal Conference**
d & 4th Thursday, 7-9 p.m., Contact: Dr. ern.

**europathology Case Review**
eekly Friday, 8:30 a.m., AHSC, Contact: Dr. Johnson.

**eurosciences Seminar**
eekly Tuesday & Friday, 7:30 a.m., AHSC, ontact: Dr. C. Bamford

**uclear Medicine**
eekly Thursday, 7:30 a.m., AHSC idiology Conference Rm.

**phthalmology Grand Rounds**
d Friday, 7:30 a.m., AHSC, Contact: Dr. J. erschler

**rthopedic Rounds**
turday, 8:00 a.m., Contact: Dr. Peltier.

**in Conference**
d Monday, 4-5 p.m., AHSC Dining Rm. D, Contact: Drs. Hameroff & Cork.

**thology Seminar**
eekly, 4:30-5:30 p.m., AHSC, Rm. 5120. ontact: Dr. P. Finley

**cson Pathologist Conference**
Monday, 7:30 p.m., AHSC, Contact: Dr. A. Graham.

**diatric Grand Rounds**
d & 4th Tuesdays, 12 p.m., AHSC, Contact: . H. Thompson.

**diatric Problem Patient Conference**
eekly Wed., 8:00 a.m., Contact Dr. Walson

**diatric Research Forum**
eekly Tuesday, 7:30 a.m., Contact: Dr. mes Jones

**Pediatric Specialty Conference**
Weekly Friday, 8:00 a.m., Contact: Dr. Philip Walson.

**Psychiatric Grand Rounds**
Weekly Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital

**Pulmonary Rounds**
Weekly Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.

**Chest Radiology**
Weekly Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich

**Gastrointestinal Radiology**
Weekly Tuesday, 5-6 p.m., AHSC, Contact: Radiology Dept.

**Radiology-Rheumatology Conference**
Weekly Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.

**Uroradiology (Genitourinary Radiology)**
2nd & 4th Mondays, 7:30- 8:30 a.m., AHSC, Contact: Dept. of Radiology

**Renal Pathology Conference**
1st & 3rd Thurs., 11:30 a.m., Contact: Dr. Nagle.

**Residents Noon Conference**
Weekly Tuesday & Thursday, 12:00 noon, AHSC, Contact: Dr. A. Greensher.

**Resident's Conference**
Wednesday, weekly 5-6 p.m., Diag. Radiology Conf. Rm.

**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.

**Surgical Morbidity & Mortality Conference**
Weekly Wed., 8:00 a.m., Contact: Dr. Wangensteen.

**Vascular Surgery Conference**
Weekly Tuesdays, 5-6 p.m., AHSC Dining Room E.

**Joint Thyroid Conference**
1st & 3rd Tuesdays., 1-2:00 p.m., AHSC, Rm. 6505, Contact: S. C. Werner, M.D.

**Trauma Conference**
Monday,4:00 p.m. UAHSC, Rm. 4410, Contact: Dr. Peltier.

**Toxicology Conference**
Weekly Tuesday, 8:00 a.m., Contact: Dr. Keith Likes

**Tucson Ultrasonography Group**
Weekly Wed., 4:30 p.m., AHSC, Contact: Dr. I. Freundlich.

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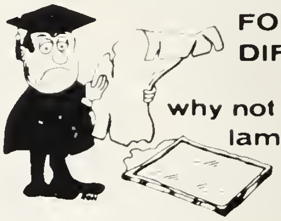

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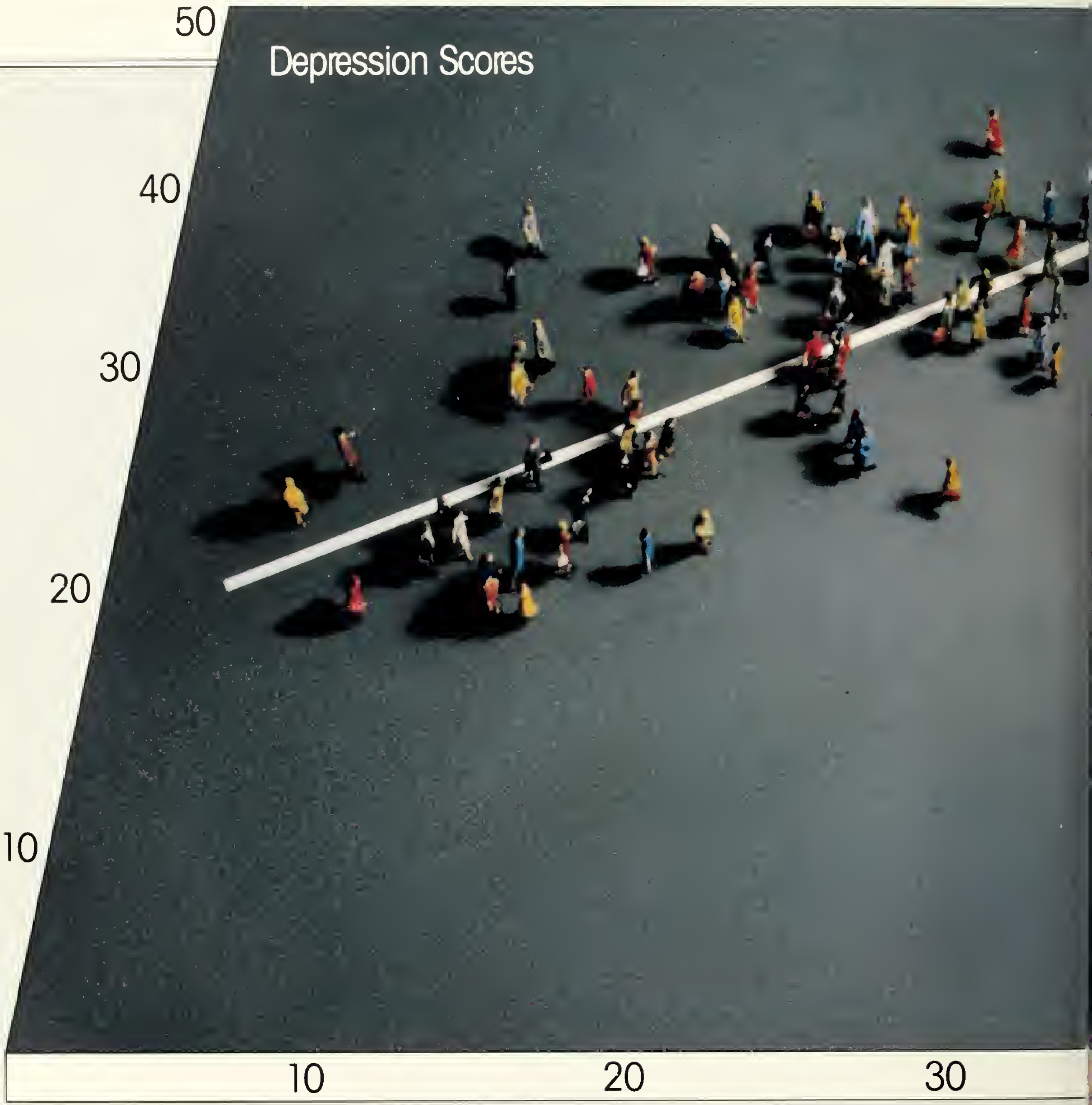

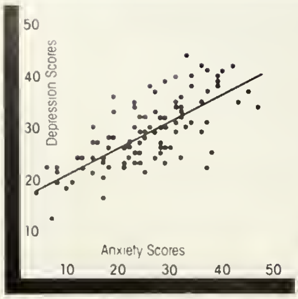

## Clear correlation between anxiety and depression[3]

The above graph illustrates a relationship between anxiety and depression, indicating that patients seldom present with anxiety or depression alone; more often they have both in varying degrees. Data based on a sampling of 100 outpatients (64 male; 36 female) seen at a general psychiatric clinic.

[3] Adapted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics 11*:438-441, Sept-Oct 1970.

ROCHE®

# DEPRESSED PATIENTS WHO ARE ALSO ANXIOUS[1,2]

## Most depressed patients are also anxious...

Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.[1,2] One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.[3] As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

## but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiazines, however, carry a well-documented risk of tardive dyskinesia.[4] Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

## A better way to give relief

Limbitrol combines the specific anxiolytic action of Librium® (chlordiazepoxide HCl/Roche)—a benzodiazepine with a long history of safe use—with the antidepressant action of amitriptyline, a tricyclic of established clinical efficacy. In comparison to phenothiazines, Limbitrol and its components have rarely been associated with tardive dyskinesia or other extrapyramidal side effects. And in terms of rapid response and patient compliance, Limbitrol appears to be superior to amitriptyline alone. Controlled multiclinic studies showed Limbitrol relieved more symptoms more rapidly than did amitriptyline.[5] Despite a higher incidence of drowsiness, the dropout rate due to side effects was lower with Limbitrol. (See adverse reactions section in summary of product information on next page. As with any CNS-acting agent, patients should be cautioned about driving or using dangerous machines while on therapy with Limbitrol.)

**References: 1.** Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, ed. Jarvik ME. New York, Appleton-Century-Crofts, 1977, p. 316. **2.** Schatzberg AF, Cole JO: Benzodiazepines in depressive disorders. *Arch Gen Psychiatry 35*:1359-1365, 1978. **3.** Claghorn J: The anxiety-depression syndrome. *Psychosomatics 11*:438-441, 1970. **4.** The Task Force on Late Neurological Effects of Antipsychotic Drugs: Tardive dyskinesia, summary of a task force report of the American Psychiatric Association. *Am J Psychiatry 137*:1163-1172, 1980. **5.** Feighner JP *et al*: A placebo-controlled multicenter trial of Limbitrol versus its components (amitriptyline and chlordiazepoxide) in the symptomatic treatment of depressive illness. *Psychopharmacology 61*:217-225, 1979.

## In moderate depression and anxiety

# Limbitrol® Ⓒ IV

**Tablets 5-12.5** each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)
**Tablets 10-25** each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt)

## Relief without a phenothiazine

**Please see summary of product information on next page.**

**LIMBITROL® TABLETS Tranquilizer–Antidepressant**
**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Relief of moderate to severe depression associated with moderate to severe anxiety

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved Contraindicated during acute recovery phase following myocardial infarction

**Warnings:** Use with great care in patients with history of urinary retention or angle-closure glaucoma Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses Myocardial infarction and stroke reported with use of this class of drugs ) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e g operating machinery, driving).

> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide)

**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients Periodic liver function tests and blood counts are recommended during prolonged treatment Amitriptyline component may block action of guanethidine or similar antihypertensives Concomitant use with other psychotropic drugs has not been evaluated sedative effects may be additive Discontinue several days before surgery Limit concomitant administration of ECT to essential treatment See Warnings for precautions about pregnancy Limbitrol should not be taken during the nursing period Not recommended in children under 12

In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects

**Adverse Reactions:** Most frequently reported are those associated with either component alone drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs

*Cardiovascular* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke

*Psychiatric* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido

*Neurologic* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns

*Anticholinergic* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract

*Allergic* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus

*Hematologic* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia

*Gastrointestinal* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue

*Endocrine* Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels

*Other* Headache, weight gain or loss, increased perspiration, urinary frequency mydriasis, jaundice, alopecia, parotid swelling

**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose Treatment is symptomatic and supportive I V administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning See complete product information for manifestation and treatment

**Dosage:** Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single *h s* dose may suffice for some patients Lower dosages are recommended for the elderly Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required Limbitrol 5-12 5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses

**How Supplied:** White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12 5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50

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Manati, Puerto Rico 00701

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**"Put not your trust in money, but put your money in trust."**

Oliver Wendell Holmes

1784

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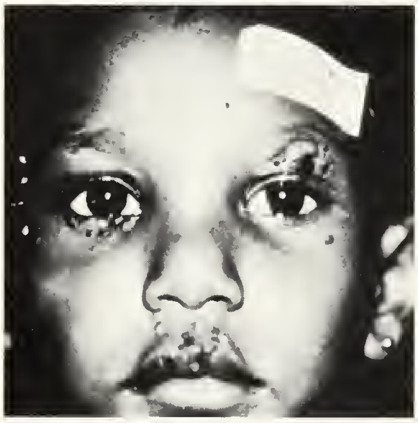
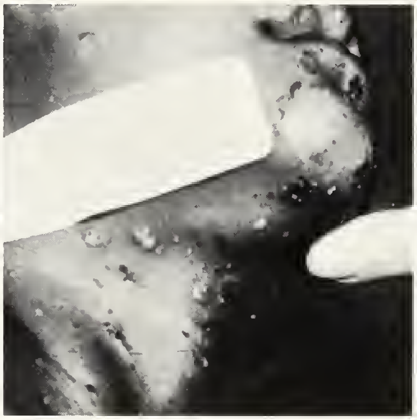
# DRAMATIC NEW CLINICAL PROOF*

## In the treatment of impetigo–

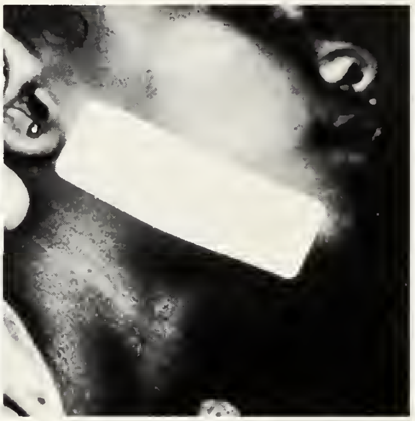
- **100% cure rate with Tegopen® (cloxacillin sodium)**
- **only a 60% cure rate with penicillin V-K**



As seen on admission



After one week of penicillin V-K therapy



Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

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**Brief Summary of Prescribing Information**

**TEGOPEN®**
(cloxacillin sodium)
**Capsules and Oral Solution**

For complete information, consult Official Package Circular (12) 9/11/75

**INDICATIONS:**

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

**IMPORTANT NOTE**

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

**CONTRAINDICATIONS:**

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

## RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

| | | Given Tegopen® *(cloxacillin sodium)* | Given *penicillin V-K* |
|---|---|---|---|
| ***Staphylococcus aureus*** | (78 patients) | 39 | 39 |
| Returned to clinic at one week | | 29† | 38† |
| Treatment failure at one week | | 0 | 18 (47.4%) |
| ***Staphylococcus aureus* and *Streptococcus pyogenes*** | (9 patients) | 4 | 5 |
| Returned to clinic at one week | | 4 | 5 |
| Treatment failure at one week | | 0 | 2 (40%) |
| **No initial bacterial growth** | (14 patients) | 9 | 5 |
| All 14 healed, regardless of which antibiotic was administered. | | | |
| **Beta-hemolytic *Streptococcus*** | (1 patient) | 0 | 1 |
| TOTALS: | **102 patients** | **52 patients** | **50 patients** |

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

## STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus,* 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes,* and 1% beta-hemolytic *Streptococcus*.‡
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

‡The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

# TEGOPEN®

## (cloxacillin sodium)

## –effective therapy for staph infections of the skin and skin structures

**WARNING:**

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

**PRECAUTIONS:**

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

**ADVERSE REACTIONS:**

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

**USUAL DOSAGE:**

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

*N.B.*: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

**SUPPLIED:**

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

**BRISTOL®**

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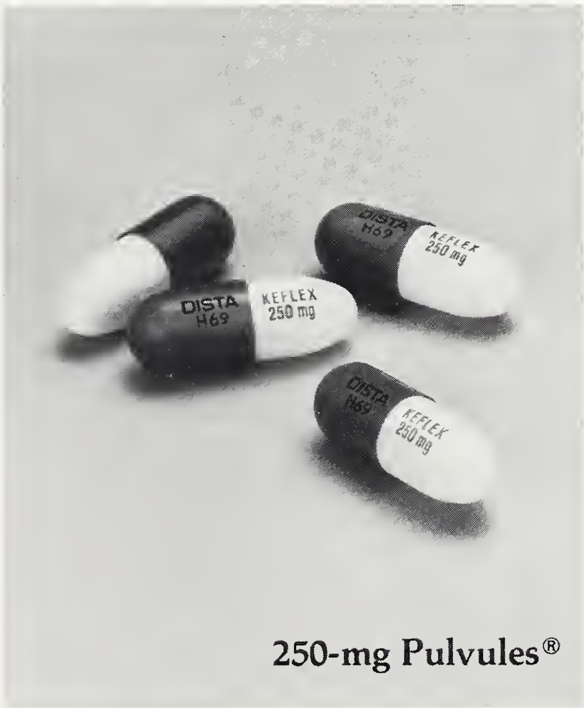

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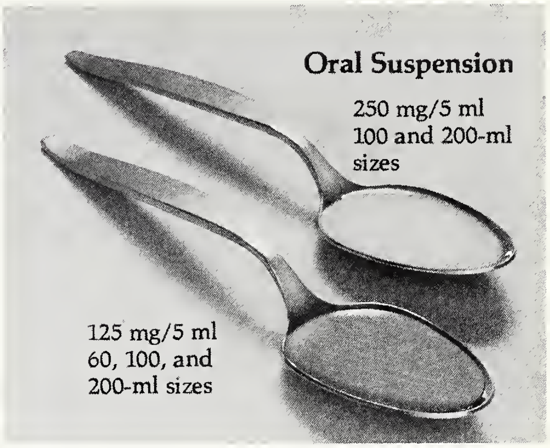
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250 mg/5 ml
100 and 200-ml
sizes

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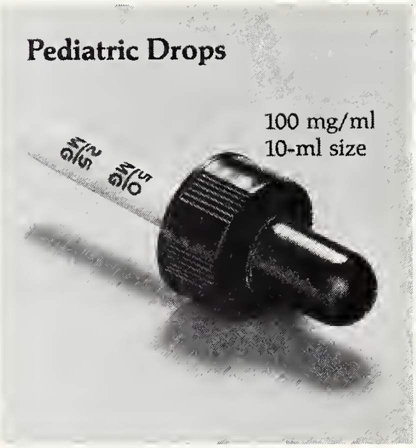
60, 100, and
200-ml sizes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# BEWARE THE WINTER WEATHER!

# RU-TUS

# Dispel the Clouds of Fall an

## RU-TUSS®
TABLETS

**Each prolonged action tablet contains:** Phenylephrine Hydrochloride 25 mg • Phenylpropanolamine Hydrochloride 50 mg • Chlorpheniramine Maleate 8 mg • Hyoscyamine Sulfate 0.19 mg • Atropine Sulfate 0.04 • Scopolamine Hydrobromide 0.01 mg • Each Ru-Tuss tablet acts continuously for 10 to 12 hours.

### Symptomatic Relief of Sneezing and Nasal Congestion

Comprehensive decongesting, antihistaminic and anti-secretory reliever for patients with nasal, sinus and other upper respiratory irritation.

• Eases breathing • Reduces sneezing
• Reduces tearing • Dries the drip

One tablet b.i.d. gives round-the-clock relief to adults and older children (12 years and over).

# ELIEVERS

## inter Respiratory Discomfort

# RU-TUSS®

## EXPECTORANT

**Each fluid ounce contains:** Codeine Phosphate 65.8 mg • (WARNING: MAY BE HABIT FORMING) Phenylephrine Hydrochloride 30 mg • Phenylpropanolamine Hydrochloride 20 mg • Pheniramine Maleate 20 mg • Pyrilamine Maleate 20 mg • Ammonium Chloride 200 mg • Alcohol 5%

## Symptomatic Relief of Coughing with Nasal and Bronchial Decongestion

Full range symptom-reliever for patients with air way congestion in the upper chest as well as the nose and throat.

- Blocks the cough
- Loosens mucus
- Reduces sneezing
- Eases breathing
- Tasty, so it's easy to take

# To Relieve the Symptoms of Winter Weather Upper Respiratory Distres

# RU-TUSS®/RU-TUSS®

TABLETS EXPECTORANT

## RU-TUSS®

### Tablets

**DESCRIPTION**

Each prolonged action tablet contains

| | |
|---|---|
| Phenylephrine Hydrochloride | 25 mg |
| Phenylpropanolamine Hydrochloride | 50 mg |
| Chlorpheniramine Maleate | 8 mg |
| Hyoscyamine Sulfate | 0.19 mg |
| Atropine Sulfate | 0.04 mg |
| Scopolamine Hydrobromide | 0.01 mg |

Ru-Tuss Tablets act continuously for 10 to 12 hours

Ru-Tuss Tablets are an oral antihistaminic, nasal decongestant and anti-secretory preparation.

**INDICATIONS AND USAGE** Ru-Tuss Tablets provide relief of the symptoms resulting from irritation of sinus, nasal and upper respiratory tract tissues Phenylephrine and phenylpropanolamine combine to exert a vasoconstrictive and decongestive action while chlorpheniramine maleate decreases the symptoms of watering eyes, post nasal drip and sneezing which may be associated with an allergic-like response The belladonna alkaloids, hyoscyamine, atropine and scopolamine further augment the anti-secretory activity of Ru-Tuss Tablets.

**CONTRAINDICATIONS** Hypersensitivity to antihistamines or sympathomimetics Ru-Tuss Tablets are contraindicated in children under 12 years of age and in patients with glaucoma, bronchial asthma and women who are pregnant Concomitant use of MAO inhibitors is contraindicated

**WARNINGS** Ru-Tuss Tablets may cause drowsiness Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers

**PRECAUTIONS** Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucoma, or urinary bladder neck obstruction Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism Patients should avoid driving a motor vehicle or operating dangerous machinery (See Warnings)

**OVERDOSAGE** Since the action of sustained release products may continue for as long as 12 hours, treatment of overdoses directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time Saline cathartics are useful for hastening evacuation of unreleased medication In children and infants, antihistamine overdosage may produce convulsions and death

**ADVERSE REACTIONS** Hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis, and thrombocytopenia may occur Other adverse reactions to Ru-Tuss Tablets may be drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerotomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervousness, dizziness and insomnia Large overdoses may cause tachypnea, delirium, fever, stupor, coma and respiratory failure

**DOSAGE AND ADMINISTRATION** Adults and children over 12 years of age, one tablet morning and evening Not recommended for children under 12 years of age Tablets are to be swallowed whole

**HOW SUPPLIED:**

| | |
|---|---|
| Bottles of 100 Tablets | NDC 0524-0058-01 |
| Bottles of 500 Tablets | NDC 0524-0058-05 |

Federal law prohibits dispensing without prescription.

**DISTRIBUTED BY:**
Boots Pharmaceuticals, Inc.
Shreveport, Louisiana 71106

**MANUFACTURED BY:**
Vitarine Company, Inc.
Springfield Gardens, New York 11413

## RU-TUSS®

### Expectorant

**DESCRIPTION**

Each fluid ounce of Ru-Tuss Expectorant contains

| | |
|---|---|
| Codeine Phosphate | 65 |
| (WARNING MAY BE HABIT FORMING) | |
| Phenylephrine Hydrochloride | 3 |
| Phenylpropanolamine Hydrochloride | 2 |
| Pheniramine Maleate | 2 |
| Pyrilamine Maleate | 2 |
| Ammonium Chloride | 20 |
| Alcohol | |

Ru-Tuss Expectorant is an oral antitussive, antihistaminic, nasal decongestant and e torant preparation

**INDICATIONS AND USAGE** Ru-Tuss Expectorant is indicated for symptomatic relief of respiratory congestion associated with pharyngitis, tracheitis, bronchitis, and allergic tis Also, for the temporary relief of symptoms associated with hay fever, allergies, congestion and cough due to the common cold

**CONTRAINDICATIONS** Hypersensitivity to antihistamines Concomitant use of an hypertensive or antidepressant drug containing a monoamine oxidase inhib contraindicated

Ru-Tuss Expectorant is contraindicated in patients with glaucoma, bronchial asthm in women who are pregnant

**WARNINGS** Ru-Tuss Expectorant contains codeine phosphate, therefore, the patient s be warned of the potential that this drug may be habit forming Ru-Tuss Expectoran cause drowsiness Patients should be warned of the possible additive effect caus taking antihistamines with alcohol, hypnotics, sedatives and tranquilizers

**PRECAUTIONS** Patients taking Ru-Tuss Expectorant should avoid driving a motor veh operating dangerous machinery (See Warnings) Caution should be taken with p having hypertension, diabetes, hyperthyroidism and cardiovascular disease

Caution should also be used in patients with pulmonary, hepatic or renal insufficien

**ADVERSE REACTIONS** Ru-Tuss Expectorant may cause drowsiness, lassitude, gid dryness of mucous membranes, tightness of the chest, thickening of bronchial secr urinary frequency and dysuria, palpitation, tachycardia, hypotension hypertension ness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, stomia, blurred vision, anorexia nausea, vomiting, diarrhea, constipation, epigastr tress, hyperirritability, nervousness, and insomnia Overdoses may cause restles excitation, delirium, tremors, euphoria, metabolic acidosis, stupor, tachycardia and convulsions

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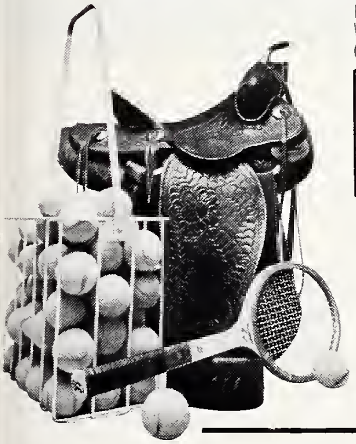

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Cardiology

# An Introduction to Radionuclide Ventriculography

Douglass Morrison, M.D.
Robert Henry, M.D.

Editor:
Kenneth B. Desser, M.D.

**Abstract**

Radionuclide ventriculography is a non-invasive means of assessing cardiac size and function. A radionuclide is injected intravenously and a gamma scintillation camera is used to record radioactivity from the heart. The information is recorded on a computer which allows for digital display and/or analysis. Recording can be done in multiple obliquities as a series of digital images.[1]

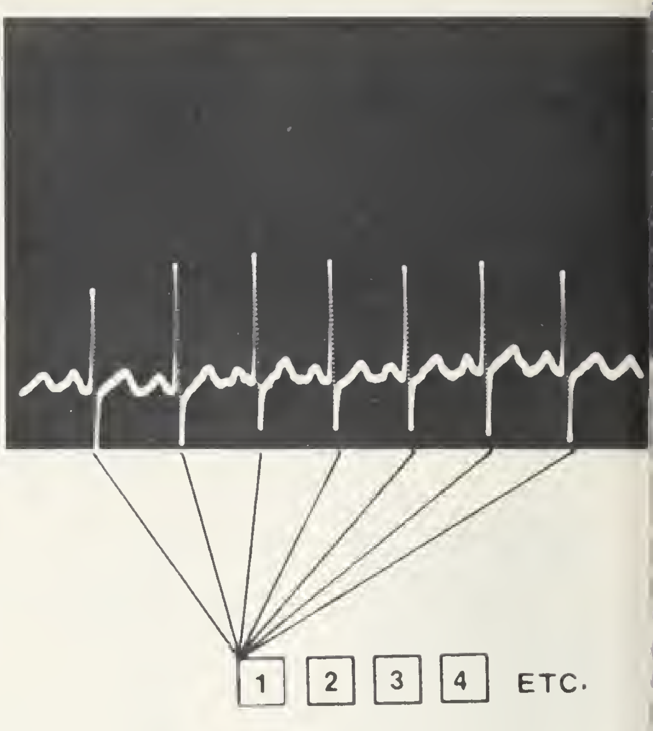

Figure 1
**ECG gating: the R wave of the electrocardiogram signals t camera to take a series of pictures. Each picture is a compos of cardiac cycles (6-8 for first pass — 300-500 for gated bloo**

In the first pass method, the first passage of radioactive bolus through the heart is monitore Images of the first passage through the right and l ventricles may be acquired in digital format and th viewed for both qualitative assessment or quantitat analysis.[3] Alternatively, it is possible to obtain a time radioactivity curve of the first passage of the bo through the right and left ventricles.[4] This curve, wh is analogous to any other indicator dilution curve, can used to compute the cardiac output by integrating t area under the curve with respect to time. The cur may be inspected for a recirculation peak which impl the presence of an intracardiac left to right shunt and t areas under the respective peaks may be integrated calculate the size of the shunt.[5] A small part of the rig and left ventricular curves may be inspected for t phasic undulations of ventricular systole and diastole adequate counts are recorded so as to clearly measu peaks, corresponding to end diastole, and troug corresponding to end systole, it is possible to calcul right and left ventricular ejection fractions by t formula:

$$\frac{\text{end diastolic counts} - \text{end systolic counts}}{\text{end diastolic counts}}$$ [6-8]

In the equilibrium blood-pool method a substan such as red blood cells or albumin, which will stay with the circulation, is labeled with a radionuclide, inject and allowed to equilibrate in the blood. Digital imag are then obtained by using the electrocardiographic

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From: The Divisions of Internal Medicine and Radiology, University of Arizona Health Sciences Center and the Cardiology Section and Nuclear Medicine Department, Tucson Veterans Administration Medical Center, Tucson, Arizona.

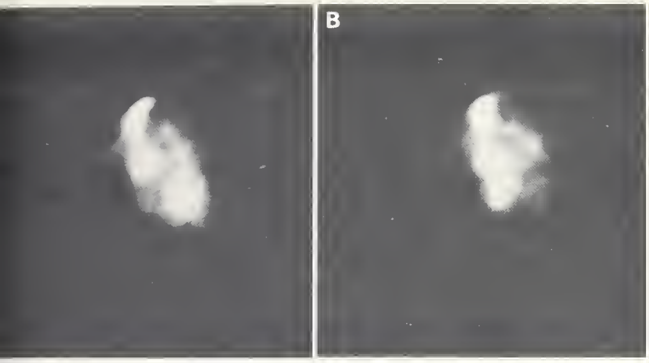

Figure 2
st pass right anterior oblique images of the right ventricle: s the end diastolic frame and b is the end systolic frame.

ve as a signal, or gate, to time the pictures. Using this ethod a series of images, each of which is a composite multiple cardiac cycles, is obtained.[9] These images ay be viewed in movie format for qualitative sessment or analyzed for quantitative assessment. For ample, one might use an electronic pen to outline the gion of the left ventricle on the digital image. The mputer will then sum the radioactivity within this gion for all of the images and generate a time vs. dioactivity curve from which the ejection fraction may calculated by the formula cited above.[10]

In our hospital, we frequently perform both first pass d gated blood-pool methods in order to gain the most formation and provide additional quality assurance. In th cases, we use ECG gating to obtain a composite ries of cardiac images timed off the ECG R wave; see gure 1. For the first pass study we inject approximately mCi of technetium pertechnetate with a fast hand ection through a butterfly catheter in a peripheral in ten minutes after having injected 6 mg stannous rophosphate. The pyrophosphate injection is not cessary for the first pass studies, but does provide for *vivo* labeling of red blood cells; this assures the dionuclide will stay in the circulation for the bsequent blood-pool study.[11] The camera which is sitioned in a shallow right anterior obliquity, for paration of the atria and ventricles, is begun mediately with the injection and a series of ECG gated ages of the right ventricle are obtained; Figure 2. proximately 6-8 cardiac cycles are recorded and the mera is stopped while the bolus passes through the ngs. With the first appearance of the bolus in the left art, the camera is started again and a series of mposite left ventricular images are obtained; Figure 3. th the right and left ventricular images are stored for er viewing in movie format and quantitative analysis. ver the ensuing 5-10 minutes the red cells equilibrate. e camera can be repositioned in multiple obliquities acquisition for ECG gated equilibrium blood-pool ages. Figure 4 shows left anterior oblique end diastolic d end systolic images. Subsequently these composite

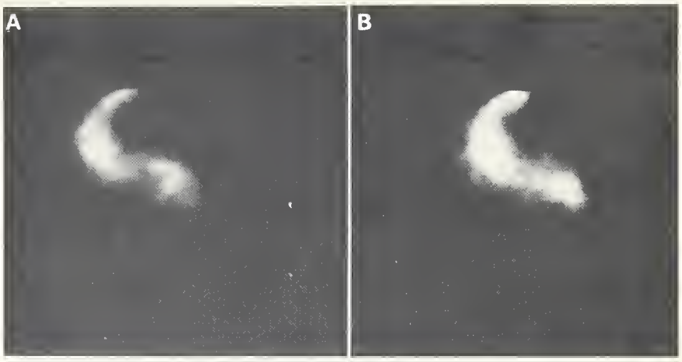

Figure 3
First pass right anterior oblique images of the left ventricle: a is the end diastolic frame and b is the end systolic frame.

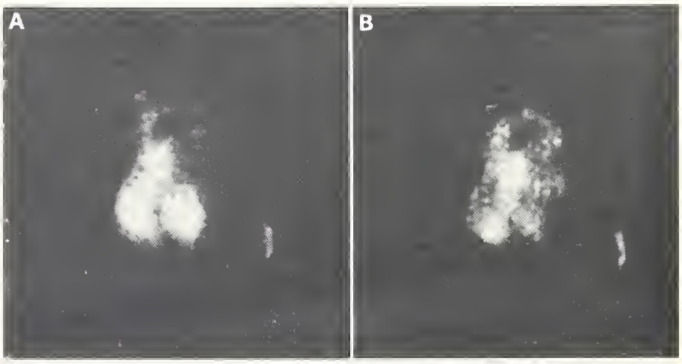

Figure 4
Equilibrium blood pool left anterior oblique images of the right and left ventricles: a is the end diastolic frame and b is the end systoloc frame.

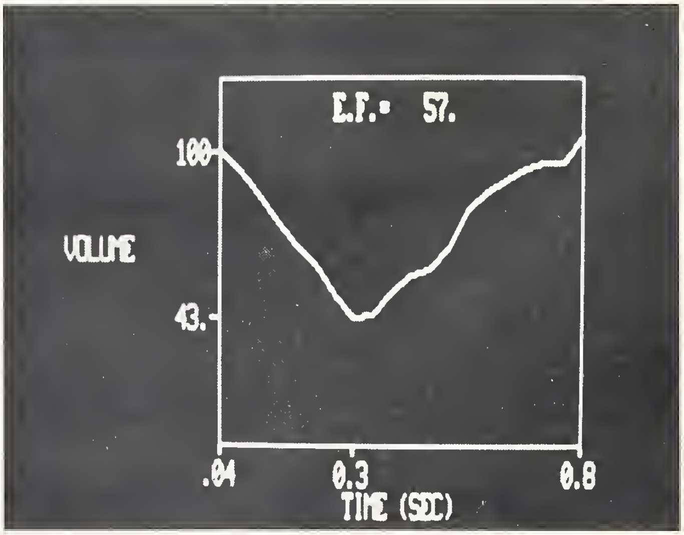

Figure 5
Time vs. activity curve: this type of curve can be obtained from either the first pass or equilibrium blood pool images and reflects the volume of blood in the ventricle. The peak of the curve (usually right after the ECG R wave and thus at the very beginning) represents end diastole.

images (often 300-500 cardiac cycles) may also be viewed qualitatively or analyzed by the method described above. When performed in this manner, it is possible to obtain multiple views of both right and left ventricular size and global and regional function and multiple independent calculations of both right and left ventricular ejection fraction. Figure 5 shows a representative time activity curve and ejection fraction calculation.

The kinds of clinical questions which may be answered using these techniques are as follows:

1. Does this patient have predominantly left, right or biventricular failure? For example, a patient with severe COPD might have dyspnea from his lung disease and right ventricular failure from pulmonary hypertension, or his dyspnea and right heart failure may both be primarily a function of left ventricular failure. A normal sized left ventricle with a normal left ventricular ejection fraction by radionuclide ventriculography suggests the former whereas a dilated hypocontractile left ventricle suggests the latter.[12]

2. Is this patient's cardiomegaly due to global reduction of function or volume overload? For example a renal failure patient, with an arteriovenous fistula for dialysis, might well have cardiomegaly and edema. A normal left and right ventricular ejection fraction would be consistent with maintained cardiac function.[13,14]

3. What is the extent of this patient's myocardial infarction?[15-16] Does he have an aneurysm?[17] What is his prognosis?[18] The ejection fraction as a measure of systolic function has been shown to be important in prognosis postinfarction. Qualitative and quantitative (computer programs to calculate regional wall motion are available) assessment of regional contraction can help to determine the relative size of an infarct and identify the presence of an aneurysm.

4. What is the effect of this patient's cardiotoxic medication such as adriamycin upon his heart?[19] Because the radiation exposure from a radionuclide ventriculogram is small, serial studies to follow the course of adriamycin or other forms of chemotherapy are practical.

5. What is this patient's reserve of left and right ventricular function?[20-27] Radionuclide ventriculograms may be performed during exercise or in response to other stresses (such as handgrip, cold pressor or in response to various drugs).

It is important to emphasize limitations of radionuclide ventriculography. Much of the literature has stressed the usefulness of exercise ventriculography as well as exercise perfusion scintigraphy (thallium scanning) in the "diagnosis" of coronary artery disease. First, an exercise wall motion abnormality is a consequence of ischemia or infarction. It is possible to have ischemia without coronary atherosclerosis (e.g., coronary spasm) and it is possible to have significant atherosclerosis without identifying ischemia, for example, if the patient cannot exercise enough due to pulmonary limitation. Second, the clinical usefulness of a test does not depend merely upon its sensitivity and specificity with regard to a particular disease but al upon the disease prevalence in the group to be studie The practical consequence of this point is that in a 6 year-old man with typical angina, the likelihood significant atherosclerosis is so high that doing exercise wall motion (or exercise thallium, or exerci electrocardiogram) to "exclude coronary disease" is n reasonable. A full discussion of when exerci ventriculography is helpful is given in several rece exercise reviews.[28,29]

Radionuclide technics have a resolution limitation approximately 1 cm in comparison to 1 to 2 mm for 2 echocardiography. Therefore echo is always to preferred for the identification of pericardial effusior valvular abnormalities, intracardiac clots, et Radionuclide ventriculography is far better for right a left ventricular function information.

In summary, radionuclide ventriculography is a sa non-invasive means of obtaining qualitative a quantitative functional assessment of both the left a right ventricles.

### Glossary of Key Words for Radionuclide Ventriculography

1. *Radionuclide* — An atom with an unstable nucle such that it spontaneously tends to change to a sta form with omission of radioactivity.

2. *Ventriculography* — Opacification of the ventricle as to render it visible by some sort of imaging syste

3. *First Pass* — A technique of radionuclide ventricu graphy: The first transit of an intravenously injec substance through the heart; by this method the ri and left sides of the heart are imaged sequentially rat than simultaneously. See Figures 2 and 3.

4. *Gate* — A signal mechanism; ECG gated means t the R wave from a patients ECG signals a camera to t a series of pictures.

5. *Equilibrium Blood-Pool* — A technique of radionucl ventriculography; a substance which will stay in blood, such as albumin or red blood cells is labeled wit radionuclide; this substance is then allowed equilibrate in the circulation and all four card chambers are then "hot" and can be imaged witl camera. See Figure 4.

6. *Gamma Camera* — Device which senses radioact photons and displays an image based upon pho absorption; this image may be transferred to a compu (digital).

7. *Digital Image* — The picture displayed is a matrix points on a computer screen.

8. *Pixel* — Picture element; the points on the dig image.

9. *Region of Interest* — A specific group of pixels fr which you want the computer to sum all the activ which has been recorded over time.

10. *Frame* — Each gated image is a series of pictu taken with reference to the ECG. See Figure 1.

Note: Each frame is a composite picture of many rdiac cycles; it therefore represents a time average.

11. *Time Activity Curve* — Plot of activity recorded thin a region of interest over time. See Figure 5.

12. *Ejection Fraction* — The fraction of the largest ntricular volume which is expelled with each ventrilar systole;

$$\frac{\text{end diastolic volume} - \text{end systolic volume}}{\text{end diastolic volume}}$$

$$\frac{\text{end diastolic counts} - \text{end systolic counts}}{\text{end diastolic counts}}$$

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## Editorial Comment

### Kenneth B. Desser, M.D.

First-pass and blood-pool radionuclide angiograms are superb technics for evaluating global left ventricular ejection fraction and there is a high degree of correlation ($r = 0.90$) between the two methods. Serial scintigraphy has been found to provide important prognostic information following acute myocardial infarction. Performance of these angiograms at rest and during exercise not only detects ischemic heart disease by demonstrating regional contraction abnormality and a decrease in ejection fraction but also estimates the efficacy of medical and surgical management. Interestingly, some investigators have identified left atrial myxoma by means of radionuclide angiography. Of patients with asymetric septal hypertrophy ("ASH") diagnosed by echocardiography, approximately 50% will have disproportionate upper septal thickening ("DUST") on their radionuclide angiogram. The association of "ASHes" and "DUST" was noted long before the development of either echocardiography or radionuclide angiography but the designation seems appropriate in the setting of this potentially lethal disorder.

*Supported by the Biomedical Research Memorial Fund, Inc.*

Seminars in
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# Prevention of Postoperative Pulmonary Complications

C. Herbert Fredell, M.D.

Editors:
Richard J. Lemen, M.D.
Bernard Levine, M.D.
John J. Seidenfeld, M.D.

Postoperative pulmonary complications occur frequently following thoracic and upper abdominal operations. They can be reduced if risk factors are recognized and preoperative therapeutic measures begun promptly.[1,2]

The risk factors can be initially identified by a careful history and physical examination. The chest roentgenograms, electrocardiogram and spirogram document the problem areas identified by the physician. Advanced age, obesity, tobacco smoking and existing lung and cardiovascular disease increase the likelihood of pulmonary complications.[3]

When the risk factors in Table 1 are present, pulmonary function tests and blood gas determinations are indicated.[2,4] One subjective test of preoperative cardiopulmonary function is the ability to climb several flights of stairs. The change in the patient's pulse and respiration is compared with that of the accompanying examiner. This assessment has been more accurately replaced by spirometric testing. Spirometry is rapid, reproducible, inexpensive and has predictive value. Spirometry should be performed on the day of hospital admission, a part of the routine laboratory screening tests for surgical patients.

**Table 1**
**Indications for Preoperative Pulmonary Function Studies**

Over 65 years of age
Obesity
Heavy tobacco smoking
Chronic cough
Suspected pulmonary disease
Suspected heart disease
Thoractomy candidate
Upper laparotomy candidate

The most useful values obtained from spirometry are the forced vital capacity (FVC) and the one second forced expired volume ($FEV_{1.0}$). The $FEV_{1.0}$/FVC ratio or FEV$_{1.}$ percent is less useful than the absolute value for the $FEV_{1.0}$. The test of maximal voluntary ventilation (MVV) is not part of routine spirometry but is usefu because it requires sustained strenuous effort by the patient thereby giving some insight into the patient's motivation and ability to cooperate.

An absolute value of $FEV_{1.0}$ greater than two liters and a maximal voluntary ventilation which exceeds 50 percent of predicted are the most useful indicators of the patient's ability to withstand surgery.[5-7]

The relative contraindications to thoracic and uppe abdominal surgery are listed in Table 2. If the thoracic patient demonstrates an $FEV_{1.0}$ less than two liters (o $FEV_{1.0}$ less than 50 percent of FVC) or an MVV less than 50 percent of predicted, then a radionuclide split function test to study each lung separately is indicated.[6-9]

Radionuclide split function testing has replaced bronchospirometry for thoracic surgery patients. Both ventilation and perfusion scans were used initially. In patients with chronic lung disease, the percentage o perfusion and ventilation are similar despite localized ventilation perfusion imbalances. Therefore, the perfusion scan alone is now used in some centers.[7] The scintillation camera is set in a divided (split crystal) mode with the split in the center of the mediastinum. The radioactivity sensed by each half of the camera i quantified. Using the preoperative $FEV_{1.0}$ and the fraction of contralateral perfusion obtained from the $^{99m}$Tc macroaggregate perfusion scan, the estimation o the postoperative $FEV_{1.0}$ is obtained from the equation Preoperative $FEV_{1.0}$ x the percentage of contralatera perfusion = postoperative $FEV_{1.0}$.

If the predicted postoperative value for $FEV_{1.0}$ i greater than 800 ml, the patient is a candidate fo pulmonary resection including pneumonectomy. New data shows that deaths from respiratory failure and postoperative respiratory cripples are infrequent among selected patients using this combination of the FEV$_{1.}$ the MVV and the split function perfusion scan.[7]

The criteria used to select patients fo pneumonectomy are also applied to lobectom candidates because with lobectomy there is an earl

From: Veterans Administration Medical Center, Department of Surgery, Seventh Street and Indian School Road, Phoenix, Arizona 85012

### Table 2
### Relative Contraindications to Thoracotomy and Upper Laparotomy

. Age—70-75
. Heart
  A. Recent myocardial infarct (3 to 6 months prior to operation).
  B. Congestive heart failure.
. Lung
  A. Recent acute respiratory tract infection when timing of operation is elective.
  B. $FEV_1$ less than 2,000 cc for pneumonectomy.
  C. MVV less than 50% of predicted.
  D. Resting hypercarbia or hypercarbia following exercise ($paCO_2$ greater than 45 mmHg).
  E. Severe hypoxemia at rest or following exercise ($paCo_2$ less than 50 mmHg).
  F. Calculated $FEV_1$ less than 800 cc for postoperative pulmonary resection as determined by spirometry combined with ventilation-perfusion lung scan.

isproportionate but reversible loss of function.[5] loreover, at operation pneumonectomy may be equired even though lobectomy was initially planned. Vedge resection and bronchoplastic procedures are eing done on patients who were denied surgery in the ast because of marginal cardiopulmonary reserve.

Although $CO_2$ retention is listed among the relative ontraindications to surgery in Table 2, hypercarbia iust be given great weight. It is a contraindication to all ut life saving operations.[10] Dyspnea at rest has similar nportance.

A wide variety of techniques have been employed in fforts to decrease postoperative complications among igh risk patients. The variable results reflect ifferences in patient selection and the paucity of large vell controlled series. The principles of controlling ecretions and achieving maximal lung inflation are well stablished. One or more studies have shown the ollowing to be useful in achieving these ends: cessation f smoking 20 days preoperatively; treatment of ronchitis with antibiotics; inhaled bronchodilators and hest physical therapy; ensuring maximal lung inflation sing incentive spirometry; and postponing elective perations when the patient has an acute respiratory ract infection.[1,11]

Patients must be educated before surgery and chest hysiotherapy must be combined with nebulized ronchodilators and maximal inflation maneuvers if rograms are to be successful. If positive pressure evices are used to deliver bronchodilators, large tidal olumes, at least three time the patient's tidal volume or pproaching 50% of the patient's vital capacity should be rdered rather than accepting the volume that results om fixed inflation pressures. If the patient cannot be ncouraged to take such volumes spontaneously, ositive pressure devices may be beneficial. Forceful xpiratory maneuvers tend to collapse the airways. They are not beneficial except when used to cough to expel secretions. For this reason, incentive spirometers have replaced blow bottles. Patients who have ineffective cough because of weakness may benefit from improved nutrition before surgery.

Preanesthetic doses of narcotics given to allay anxiety or control pain worsen hypoxemia in some patients with chronic lung disease. Barbiturates do not change the $PaO_2$.[12] If a preanesthetic regimen must contain a narcotic in these patients, supplemental oxygen should be given.

The principle intraoperative risk factors are prolongation of operative time, excessive blood loss and some excessive fluid replacement.

Hypoxemia in the operative period seldom occurs during general anesthesia because the anesthetized patient is given high concentrations of oxygen in the inspired gas. It is in the postoperative period that hypoxemia is most marked. This is from microatelectasis and airway closure secondary to changes in breathing pattern. Both posthyperventilation fall in $PaO_2$ and the diffusion hypoxemia which occurs when highly soluble nitrous oxide escapes from the tissues into the lungs are short lived. They are corrected by supplemental oxygen during the postoperative period.[13]

It is of note that measures taken to diminish risk of pulmonary complications postoperatively must be followed from the preoperative period through the intraoperative period into the postoperative period.

## Summary

Patients who undergo abdominal and thoracic operations have significant risk of developing postoperative pulmonary complications if they are elderly or obese and if they are smokers or have pre-existing heart or lung disease. Preoperative evaluation of these patients with screening spirometry should be routine. Prophylactic measures begun preoperatively will reduce the number of complications.

Marginal spirometric values in thoracic surgery patients call for a radionuclide split function perfusion test to study each lung separately. An anticipated postoperative $FEV_{1.0}$ of at least 800 cc, which is calculated from the preoperative $FEV_{1.0}$, is necessary to permit pulmonary resection.

Postoperative complications in high risk patients are best avoided by a program begun preoperatively. It should combine chest physiotherapy with the nebulization of bronchodilators and maximal inflation maneuvers.

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## *Seminars in Gastroenterology and Liver Disease*

# Pyloric Stenosis

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### Introduction

Pyloric stenosis is a general term referring t hypertrophy of the muscle fibers of the gastric pylorus Two distinct clinical presentations occur, one in infancy called congenital hypertrophic pyloric stenosis; th other in adulthood, termed hypertrophic pylori stenosis. This report discusses the importance of thes lesions, paying particular attention to the more commo congenital form.

### Case Report

A nine pound full term female was delivered b Caesarian section because of maternal cephalopelvi disproportion. In the first four weeks of life, the infan was breast-fed and did well with appropriate weigh gain. The mother noted that the child began "spittin up" with occasional forceful vomiting over the next tw

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weeks. Gastroenteritis was diagnosed and a trial of clear liquids given, but no relief of the intermittent, non-projectile vomiting was noted. At six weeks, the infant started losing weight and was noticed to have episodes of projectile vomiting.

On physical examination, an olive-sized mass was palpated in the epigastric region immediately following one of the vomiting episodes. An upper gastrointestinal series showed a long, narrow, string-like pyloric channel (Figure). The patient was referred for surgery. After adequate hydration, a pyloromyotomy was performed. Postoperatively, the patient had no further vomiting and was advanced to breast feeding within three days.

## Discussion

Congenital hypertrophic pyloric stenosis is the most common cause of abdominal surgery in the first six months of life. The etiology of the lesion is not known, although several possibilities exist. One theory implicates prolonged intrauterine exposure of the fetus to gastrin. Pregnant dogs injected with depot pentagastrin do, in fact, develop pyloric hypertrophy.[1] Against this, however, is a study showing no difference in serum gastrin levels in cord blood of controls and affected infants.[2] Another theory centers upon maternal stress. Revill and Dodge reported that pyloric stenosis occurs at a significantly higher rate in infants of normal mothers who had been subjected to exceptional stress during pregnancy.[3]

Histologically, pyloric muscular hypertrophy is noted along with lymphocytic infiltrates and evidence of mucosal edema, but no significant change in the autonomic ganglia are seen. Preoperative endoscopic gastric biopsies have revealed no histologic features of gastritis.[4] Following successful surgery, the tumor tends to shrink, leaving only a small scar.

The incidence of infantile hypertrophic pyloric stenosis is approximately 1/500 live births. Males are three to four times more frequently affected than females. Offspring of affected female patients are especially likely to be affected, the risk to sons being 1:6 and to daughters 1:10. Caucasions are more likely to be affected than other races, and there is concordance with the condition in identical twins.[5] Many congenital malformation syndromes occur with higher frequency in patients with infantile pyloric stenosis, including triosmy-18, Turner's syndrome, esophageal atresia, phenylketonuria, maternal myasthenia gravis and rubella embryopathy. Clinical features of pyloric stenosis include regurgitation or non-projectile vomiting starting at three to four weeks of age. The vomiting becomes projectile within a week after onset, occurring intermittently after meals. The vomitus may be occasionally blood tinged, but not bile stained. Initially, the infant continues to be hungry and takes another feeding immediately after vomiting, but eventually dehydration and lethargy develop. After several days, due to weight loss and decreased elasticity of the skin, the infant appears wrinkled and moribund. Stools may become small and infrequent. A mass 2-3 cm. in size can usually be palpated in the epigastric region to the right of the midline. It is hard, mobile, non-tender, and best palpated immediately after vomiting. If this physical finding is discovered, there is no need for barium studies. In equivocal cases, an upper gastrointestinal series shows vigorous gastric peristalsis with delayed gastric emptying. The "string-sign," seen in the present case, refers to a fine elongated pyloric channel seen on x-ray. Occasionally, the duodenal cap stretched over the hypertrophied pylorus can be seen. Approximately three percent of affected infants will have associated hyperbilirubinemia, the pathogenesis of which is unknown, but which usually resolves within 72 hours of corrective surgery. Metabolic alterations include a hypochloremic alkalosis as a consequence of vomiting. This requires correction with saline plus potassium supplementation prior to surgery.[6]

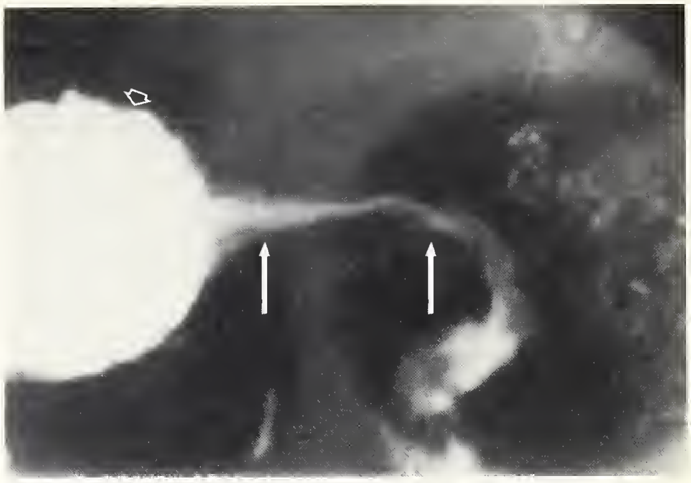

Figure
**Solid arrows indicate narrow pyloric channel. Open arrow indicates duodenal bulb.**

The differential diagnosis of infantile pyloric stenosis includes infants fed by inexperienced or anxious mothers. In these infants, an adequate maternal-infant binding relationship has not been established, and frequent vomiting in the early weeks of life is not uncommon. This vomiting may be persistent and may even be projectile, but no abnormality can be shown on upper gastrointestinal study. Chalasia and hiatal hernia also result in vomiting in the first weeks of life but can often be differentiated by upper gastrointestinal series and endoscopy, if needed. Ultrasound has occasionally been used to diagnose pyloric stenosis when radiographs are atypical and no mass can be palpated on physical exam.[7]

## Treatment

Following correction of the metabolic alkalosis and associated hypokalemia, the Fredet-Ramstedt pyloromyotomy is performed. This surgical procedure has been successfully used since 1912. It consists of incising the seromuscular gastric antrum and pylorus with a blunt instrument and allowing the mucosa to bulge between the split muscle. The mortality of this procedure is less than one percent. Six hours postoperatively, oral feedings are begun and advanced as tolerated to normal feedings by 48 hours as in the present case. It is common to have occasional episodes of vomiting postoperatively, but persistent vomiting after four days may mean incomplete division of the pyloric muscle, requiring another laparotomy. On x-ray studies, the pyloric channel may remain narrow for many months following the procedure. Medical treatment of pyloric stenosis with atropine methyl nitrate or scopolamine methyl nitrate has not been successful.

Recently the long term prognosis for infants operated on for congenital hypertrophic pyloric stenosis has been reported in 41 patients 15-30 years post-surgery. Sixty percent had gastrointestinal complaints and 25% had duodenal bulb deformities or clear-cut ulcers on upper gastrointestinal series. It was theorized that increased drainage from the stomach after surgery may result in a higher acid level in the duodenum contributing to development of ulceration. There was no correlation between the severity of the congenital stenosis and the presence of later illness.[8]

### Adult Hypertrophic Pyloric Stenosis

Adult hypertrophic pyloric stenosis can be considered as a subclass of the greater category of gastric outlet obstruction syndromes. Gastric outlet obstruction is caused by peptic ulcer disease, inflammatory bowel disease, and pancreatitis. The incidence of adult pyloric stenosis is not known, but it is much less common than the infantile form. The etiology of adult pyloric stenosis remains unclear. This condition may be the same entity observed in infancy which remains subacute in childhood but is manifested later in life. Some affected patients give a history of epigastric distress and vomiting dating back to infancy. There is also a male predominance similar to the stenosis of infancy. Histologically, the lesion in the adult is identical to that found in the infant. Another theory concerning the etiology proposes that hypertrophy of the pyloric muscle is caused by persistent "pylorospasms" of long duration secondary to gastritis, ulcer, or other pyloric inflammatory lesions. Only 200 cases of true adult hypertrophic pyloric stenosis have been documented in the literature, the incidence of so-called stenosing pyloritis being much greater.

Adult pyloric stenosis is more difficult to identify than the infantile form. The criteria for diagnosing gastric outlet obstruction are the same for diagnosing pyloric stenosis, and include a history of vomiting stale food, repetitive and often projectile vomiting, anorexia, early satiety, and weight loss. Physical examination is non-specific. Succussion splash more than four hours after eating has been noted as a characteristic finding. Palpation of an "olive" tumor, as in the congenital form of the disease, is uncommon. Other studies include a gastric aspirate of more than 300 cc's four hours after eating, or retained barium residue remaining in the stomach after six hours. Upper gastrointestinal series shows an abrupt narrowing of the pyloric channel, or "string sign." The duodenal bulb is indented by the muscle mass causing a mushroom-like deformity similar to that seen in a congenital form. With fiberoptic endoscopy the hypertrophied pylorus looks much like a cervix, and this is termed the "cervix sign." If the pylorus has this appearance following premedication with atropine, and resists intubation with the endoscope, pyloric stenosis is suggested. The diameter of the normal adult pylorus is 12-15 mm, whereas in hypertrophic pyloric stenosis, the resting diameter can be as little as 3 mm. Microscopically, the lesion has circular muscle hyperthrophy usually most pronounced in the area of the "torus," the area of the lesser curvature where the proximal and distal pyloric muscular rings are superimposed.

Several procedures are available in the treatment of symptomatic adult hypertrophic pyloric stenosis, the ideal treatment remaining controversial. Simple pyloromyotomy, which is very successful for the infantile form, is undesirable in the adult because of possible mucosal laceration. The most popular therapy currently employed is distal gastrectomy with a Billroth I anastamosis. This affords the physician a generous biopsy specimen to rule out malignancy. Other authors report that dilation with an endoscope may provide long term relief and should be tried first.[9] Brahos has recently introduced the double pyloroplasty as an alternative to distal gastric resection. Here a wide pyloric channel is produced by transecting the circular muscle in two places, so that closure is completed without tension.[10]

In summary, pyloric stenosis is an entity with two clinical presentations, congenital hypertrophic pyloric stenosis and adult hypertrophic pyloric stenosis. Although the etiology of both lesions is unclear, the clinical presentations are well documented and straightforward. This enables the physician to make the diagnosis if he is aware of the signs and symptoms involved. Establishing the correct diagnosis is important, because satisfactory surgical treatment can be obtained for both clinical forms of this disorder.

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Medical Genetics

# The Many Faces of Neurofibromatosis

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## Abstract

Neurofibromatosis is a genetic disorder with numerous signs and symptoms. The patient may present with dermatologic, ophthalmological, dental, auditory, neurological, sensory, psychiatric, vascular, endocrine, orthopedic or oncologic aberrations. Neurofibromatosis is a high-impact disease that requires broad medical, psychological and educational evaluation for diagnostic, management and counseling purposes. The quality and length of life of neurofibromatosis patients depends on early identification and recurrent schedules of medical observation. Genetic counseling is needed with all neurofibromatosis patients and their families.

## Introduction

Neurofibromatosis is an autosomal dominant condition characterized by cutaneous pigmentary changes, multiple neurofibromas, and predisposition to tumors and bone abnormalities. Individuals with this disorder, which is also called Von Recklinghausen's disease, are also at risk for mental retardation, seizure disorders and a number of vascular and endocrine complications.[1]

## Incidence

The incidence of neurofibromatosis is usually put at 1:2500 to 1:3000 births.[2-5] However, the incidence, we believe, may be higher. Neurofibromatosis is among the most common genetic diseases affecting children and adults. Until recent publicity from a play and a movie entitled "The Elephant Man," neurofibromatosis was little known to the general public, even though its numbers exceed the combined totals for muscular dystrophy, Tay-Sach's disease and Huntington's disease.[6]

Bias of ascertainment has existed in most reports, since institutional or medically dramatic cases have been the most likely to be examined. Large numbers of mildy affected individuals and families remain undiagnosed. The number of cases in the United States may surpass 100,000 persons.

## Heredity and Mutation

Neurofibromatosis follows the classical pattern of genetic transmission as an autosomal dominant trait. Affected individuals may transmit the gene for neurofibromatosis. The risk for each of their children to receive this gene is one-half (50%). Males and females are equally at risk.

It has been concluded that this disease is one of the most frequent to arise by mutation.[31] Thus, upon occasion even the most meticulous examination of all family members will fail to reveal other affected relatives, suggesting that the case is an isolated one due to new mutation.

## Variations in Expression

After studying 54 families, Miller and Hall[7] suggested that morbidity seemed much more severe in cases born to affected mothers. A genetic study of 60 families by Carey et al. later failed to confirm this possibility.[1] It is therefore still unclear whether the sex of the affected parent predicts the degree of the child's disease.

The severity of symptoms does differ within families. The wide range of symptom variability within the general population suggests the possibility that neurofibromatosis is more than one disorder. Specifically, it has been hypothesized that at least two major forms exist: peripheral and central neurofibromatosis.

The peripheral form of neurofibromatosis appears much more common. The central form is accompanied by bilateral acoustic neuromas, one or more café au lait (coffee with milk) spots and/or subcutaneous neurofibromas.[18] The central form also appears to follow autosomal dominant hereditary transmission.

## Café au Lait Spots

Café au lait spots occur in approximately 90% of children examined for neurofibromatosis[8,9] These pigmented macules are often present at birth and may be the first sign of diagnostic importance. Five or more café au lait spots larger than a half (0.5) centimeter in largest diameter are highly suggestive of neurofibromatosis *in children*.[10] The presence of one or more other diagnostic criteria such as positive family history, a positive biopsy, or other characteristic abnormalities may be necessary for diagnostic confirmation.

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Café au lait spots tend to increase in size and number throughout childhood.[8] The prerequisite in *adults* with neurofibromatosis is six or more cafe au lait spots each measuring at least one and a half (1.5) centimeters in largest diameter.[31] This requirement is met in roughly 75% of adults with neurofibromatosis. Research to differentiate between café au lait spots associated with neurofibromatosis and nevus spilus found on normal individuals has been contradictory and as yet has failed to reveal a simple, foolproof method to detect the difference.[11-14]

It cannot be assumed in a family with neurofibromatosis that a child without café au lait spots has won the 50/50 hereditary gamble. Other stigmata reported include axillary freckling, which is virtually pathognomonic of neurofibromatosis, and diffuse freckling. More rarely, bronze or gray skin patches may occur. Café au lait spots and freckling may overlay these pigmentation abnormalities.[15]

**Table 1**
**Findings Associated with Neurofibromatosis**

- Skin
  - Café au lait spots
  - Axillary freckling
  - Diffuse freckling
- Neurofibromata
- Hamartomata of the iris (Lisch nodules)
- Oral tumors
- Optic neuromas → visual impairment
- Acoustic neuromas → hearing impairment
- Intracranial tumors → mental retardation, seizures, etc.
- Pheochromocytomas
- Scoliosis
- Congenital heart disease
- Hypertension
- Stroke

## Lisch Nodules

Lewis and Riccardi[32] have reported the presence of hamartomatous lesions of the iris (termed *Lisch nodules*) to be present in neurofibromatosis patients in 92% of cases six years or older. The presence and number of Lisch nodules correlate with the age of the individual, not with the number of café au lait spots or severity of disease. Lisch nodules are not found in the nonaffected relatives of neurofibromatosis patients. Therefore, the presence of Lisch nodules is an important diagnostic criterion, especially in association with a positive family history and/or the prerequisite number of café au lait spots.

## Tumors

*Fibromas* of the peripheral nerves can appear as dermal tumors or as subcutaneous growths. These lesions vary in size, usually from two millimeters to two centimeters in diameter.[16] Such tumors are generally pain free. Irritation or injury may occasionally cause a tumor to become inflamed, infected and painful.

Subcutaneous tumors occur singly or in groups. They can form enormous plexiform neuromas creating serious cosmetic problems. Cosmetic surgical intervention may be advisable with excision of smaller lesions. With larger lesions, the more disfiguring parts of the tumor may be removed, leaving other tissues intact for restructuring purposes.[17] Oral tumors may occur on the tongue, palate, gingivae, mouth floor, buccal mucosa and lips.[16]

Age at onset of fibromas is variable with numbers and size increasing throughout life. Tumors are usually not present at birth in most cases, but may be noticed by puberty. In addition to puberty, trauma, infection, pregnancy and menopause may accelerate tumor growth.[15]

## Risk of Cancer

Neurofibromatosis is a key disease in cancer genetics.[33] The association of malignancies with neurofibromatosis has been clearly established.[4,5,19] although the risk may not exceed five percent,[14] a lower figure than was originally suspected. Not all malignant tumors in neurofibromatosis are of neural crest origin. An increased risk of leukemia is also associated with neurofibromatosis.

## Intracranial Tumors

Cranial nerves may be affected by benign tumors with corresponding motor or sensory involvement.[15] Any cranial nerve can be involved. Tumors of the optic nerve may lead to visual impairment or blindness. Unilateral or bilateral acoustic nerve involvement can result in impaired hearing or even in total deafness.[15,18]

## Intracranial Tumors

Intracranial tumors may be associated with seizures, mental retardation, hydrocephalus, sexual precocity and pheochromocytoma.[8] Tumors affecting hormonal control centers may result in endocrine dyscrasias. Problems may include menstrual difficulties, infertility, hypothyroidism, acromegaly, hypopituitarism, diabetes, tetany and Addison's disease.[15]

## Scoliosis

Neurofibromatosis patients are at increased risk for cranial and spinal deformity — especially scoliosis.[20] Many cases with kyphoscoliosis have been described.[21] Spinal deformities resulting in compression of the cord have resulted in paraplegia in other cases.[22]

A report on the natural history and associated anomolies of spine deformity as well as operative and nonoperative treatment of 102 patients has been published by Winter and Associates.[23]

These investigators noted dystrophic osseus changes in the axial skeleton characteristic of neurofibromatosis in 80% of their 102 patients. The remaining 22 patients had non-dystrophic spinal curvatures. Thus, every patient with neurofibromatosis is at high risk for scoliosis.

### Cardiovascular Problems

Neurofibromatosis patients also appear to be at increased risk for congenital heart disease.[24] Hypertension due to renal artery stenosis has been observed in children.[25-28] Hypertension in adults with neurofibromatosis is more likely secondary to pheochromocytoma.[28,29] Cerebrovascular stenosis, leading to strokes, has been associated with neurofibromatosis.

A few cases of segmental neurofibromatosis, presumably due to somatic mutation, have been reported.[30] Segmental neurofibromatosis, as yet, has not been demonstrated to have an hereditary component.

Turner mosaicism in conjunction with neurofibromatosis has been reported,[2] but chromosome aberrations are *not* a part of this disease. Since neurofibromatosis is due to a gene below the level of the microscope, chromosome studies are usually irrelevant.

### Dangerous Ages

Two age peaks exist for severe problems.[19] The first peak is 0-10 years of age. The serious problems in young children are mainly in the central nervous system and include mental retardation, hydrocephalus and seizures. The second peak is at 36-50 years of age. Neural crest malignancies tend to occur in adults with neurofibromatosis.

### Intelligence

While mental retardation associated with hydrocephalus, brain tumor or vascular lesions has been reported, intelligence within the neurofibromatosis group probably approximates a *normal* distribution in most cases. Intellectually superior children and adults with neurofibromatosis are known to these writers (B.C.M. and J.L.).

In general, the intellectual and adaptive behavior characteristics of children and adults with neurofibromatosis have been sparsely described in the literature. The extent to which specific learning disabilities may or may not be associated with this condition remains to be investigated.

### Health Care

Neurofibromatosis patients, even the most mildly nvolved and their apparently uninvolved family members, should be advised to maintain regular medical surveillance of their health status. Given the wide and explosive potential of neurofibromatosis for serious complications, there is obvious need for care of the patient and family. Since the spectrum and degree of morbidity varies so greatly among neurofibromatosis patients, broad medical, psychological and educational evaluations are required to provide a management baseline and to maintain optimum health.

*It is recommended that neurofibromatosis patients be scheduled for multidisciplinary examinations every six months.* More frequent evaluations may be scheduled if indicated by individual circumstances.

A careful medical history should be elicited and a meticulous physical examination must be done at each evaluation. The precise sequence of diagnostic and laboratory studies varies from one program[34] to another, but should include some or all of the items in Tables 2 and 3.

**Table 2**
**Diagnostic Studies in Neurofibromatosis**

A. Genetic family history*
B. Medical history*
C. Physical examination, including blood pressure and neurologic examination
D. Other diagnositic procedures
  1. Electroencephelogram (EEG)
  2. Radiographs of
    a. Skull*
    b. Optic foramina*
    c. Skeleton*
    d. Spine*
    e. Kidneys (IVP)
  3. Computerized axial tomography (CAT scan) of
    a. Cranium
    b. Orbits
E. Eye examinations (pupils dilated)*
F. Hearing evaluation (audiometry)*

**Routine on every visit (or at least 1 to 2 times a year)*

**Table 3**
**Laboratory Studies in Neurofibromatosis**

A. Blood
  1. Complete blood count (CBC)*
  2. Examination of blood smear*
  3. Blood urea nitrogen (BUN)*
  4. Fasting blood sugar (FBS)*
B. Bone marrow (only if leukemia suspected)
C. Urine
  1. Urinalysis*
  2. Urine (24 hour) epinephrine and norepinephrine

**Routine on every visit (or at least 1 to 2 times per year)*

*In Arizona* there is an active chapter of the National Neurofibromatosis Foundation, Mrs. Carol Ford, President, 3629 West Aster, Phoenix, Arizona 85029. Telephone: 938-5663. A new Neurofibromatosis Clinic is held regularly under the sponsorship of this Arizona Chapter at The Genetics Center, 123 East University Drive, Tempe, Arizona 85281. Telephone: 894-1104.

Neurofibromatosis is a high-impact disease, since its manifestations are visible to the eye and its outcome can be important to health and lifespan. There is a sword figuratively hanging over the head of people with this disease. The quality and length of life with neurofibromatosis depends on careful health maintenance.

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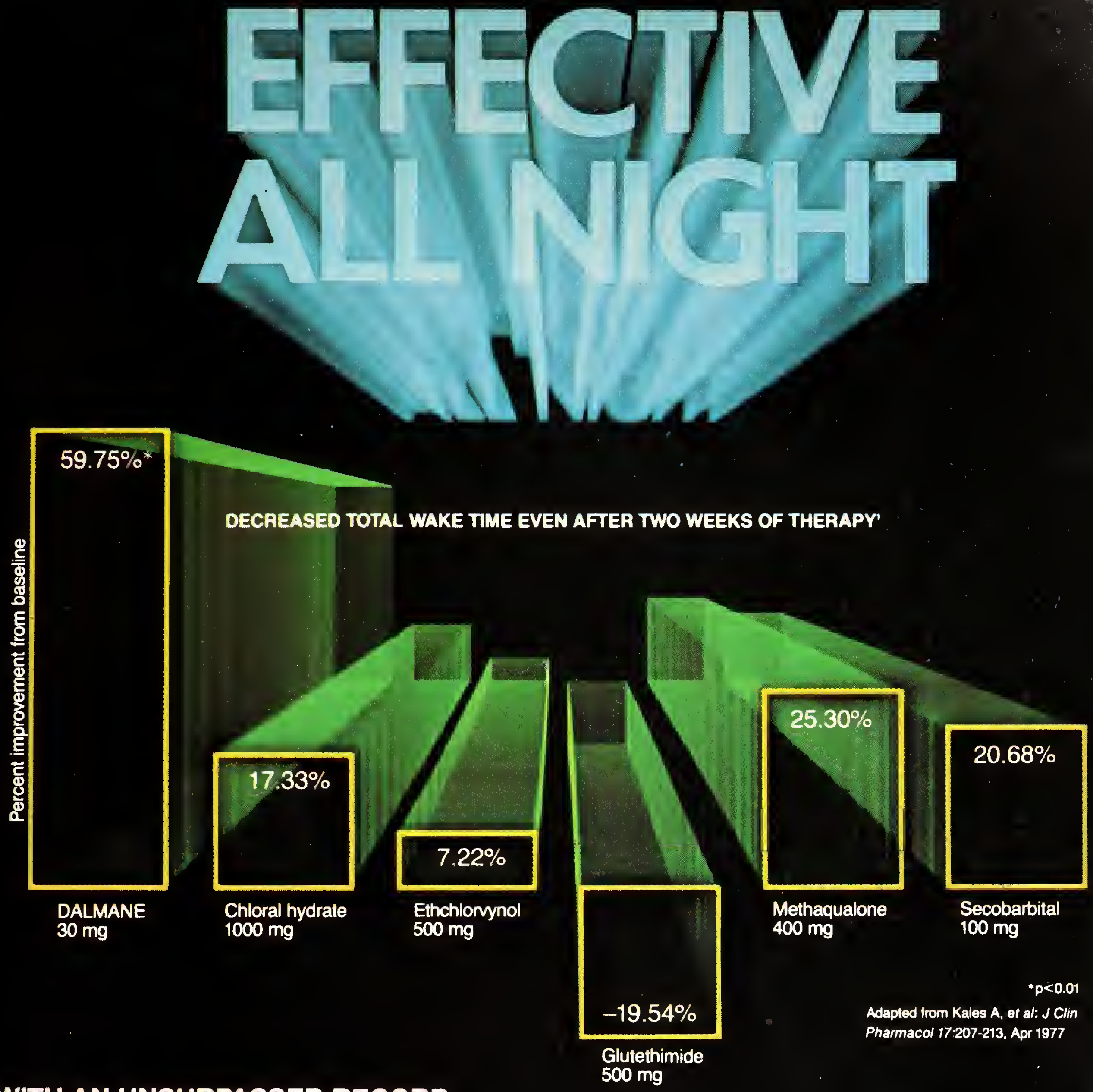

DECREASED TOTAL WAKE TIME EVEN AFTER TWO WEEKS OF THERAPY[1]

*$p<0.01$

Adapted from Kales A, *et al*: *J Clin Pharmacol* 17:207-213, Apr 1977

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–which can cause transient insomnia in the elderly[10,11]

–which can require careful monitoring in cardiovascular patients[10]

–which have strong anticholinergic effects[11]

**Antihistamines**

–which are *not* reliable sleep-inducing agents[11]

–which may produce stimulation instead[11]

–which have anticholinergic effects[11]

**Major tranquilizers**

–whose side effects may be troublesome for nonpsychotic patients[12]

–where tolerance for sedation appears rapidly[12]

**Dalmane does not cause significant worsening of sleep beyond baseline levels upon discontinuation.[4]**

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**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Effective in all types of insomnia characterized by difficulty in fal asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data hav shown effectiveness for at least 28 consecutive nights of administration. Sinc insomnia is often transient and intermittent, prolonged administration is gene not necessary or recommended. Repeated therapy should only be undertake with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregna Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Warnings:** Caution patients about possible combined effects with alcohol an other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for seve days following discontinuation. Caution against hazardous occupations requi complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period o time. Use caution in administering to addiction-prone individuals or those wh might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusi and/or ataxia. Consider potential additive effects with other hypnotics or CN depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, a and falling have occurred, particularly in elderly or debilitated patients. Sever sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anore euphoria, depression, slurred speech, confusion, restlessness, hallucination and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphata and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect.
*Adults*: 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients*: 15 mg recommended initially until response is determin

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.

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*Neurology*

# Brainstem Infarct Following Cervical Hyperextension and Axial Loading Sustained in An Automobile Accident

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## Abstract

A case of brainstem infarction following cervical hyperextension and axial loading is presented. This has not previously been reported to follow cervical injury sustained in an automobile accident. A differential diagnosis has been included which encompasses entities which should be considered by the emergency room physician.

Brainstem infarcts, and in particular the Posterior Inferior Cerebellar Artery Syndrome, are well documented in the literature to follow cervical hyperextension injuries,[1-6] such as produced by chiropractic manipulation.[7] The neurologic deterioration usually occurs immediately[1-5,7] or up to 24 hours[6] following the trauma. To our knowledge this syndrome has surprisingly never been reported to follow hyperextension injuries sustained during automobile accidents.

## Case Report:

A 46-year-old male was driving down the highway, when a slowly moving truck pulled into his lane. It was estimated that the car was traveling 35 m.p.h. when it struck the rear of the truck which was moving at 15 m.p.h. The patient's head struck the windshield causing a local ballooning of the shattered glass, and remained trapped in the bulge while his body continued to travel forward and upward, in effect hyperextending and compressing the neck.

Shortly after the accident the patient complained of vertigo, and his wife noted that he was somnolent. Eight days later the patient noted the onset of left facial pain and droop and sought medical attention. The patient's wife denied that the patient had any risk factors for stroke.

On admission he had a blood pressure of 140/72, a left facial paralysis, bilateral Babinski's and a confused mental status. A CT scan of the head was normal. Cervical spine x-rays showed anterior wedging of the C5 vertebra.

A few hours after admission the patient deteriorated and manifested in addition a right gaze palsy, a drift of the left arm, and an intention tremor on finger-to-nose testing bilaterally and heel-to-shin testing on the left.

Shortly thereafter the patient manifested clonic activity of the right hemibody and a blood pressure of 230/140. Re-evaluation revealed a skew and dysconjugate gaze, a peripheral facial palsy on the left with an absent corneal reflex, loss of pain over the right side of the face with a depressed right corneal reflex, left papatal weakness, a plegic left arm, loss of pain over the right hemibody, and an intention tremor of the left leg. Deep tendon reflexes were normal, except for depressed left brachio-radialis and biceps jerks and absent ankle jerks. The following day the patient was observed to exhibit paradoxical respiration on the left.

A repeat CT scan was again within normal limits. CSF was clear with a normal opening pressure, cell count, protein and glucose. Evaluation for vasculitis and coagulopathy was negative.

In spite of a stormy one month hospital course fraught with medical complications the patient was finally discharged in an improved but disabled condition manifested by nocturnal dyspnea, dysphagia, dysphonia, a mild right gaze palsy, left facial weakness, anesthesis to pain over the right face and body and an intention tremor of the left arm and leg. Very slight improvement followed over the next 15 months. A CT scan (Figure) performed one year after discharge documented a left cerebellar hemispheric infarct.

A cerebral angiogram was not performed at any time because the diagnosis was clinically obvious and management conservative.

## Discussion of Case

In cervical hyperextension and rotation injuries it has frequently been demonstrated that intimal tearing of the vertebral artery occurs. Thrombosis or dissecting aneurysm formation then follows. The vulnerable segments of the artery are between the transverse foramina of the axis and atlas[8,9] and between the posterior arch of the atlas and the occiput.[9] The posterior inferior cerebellar artery is frequently affected[7] because of its origin from the damaged vertebral artery.[6]

In the above case report the presence of vertigo, anesthesia to pain over the right hemibody, and left sided ataxia would be compatible with a left PICA occlusion suggested by the third CT scan. There is no

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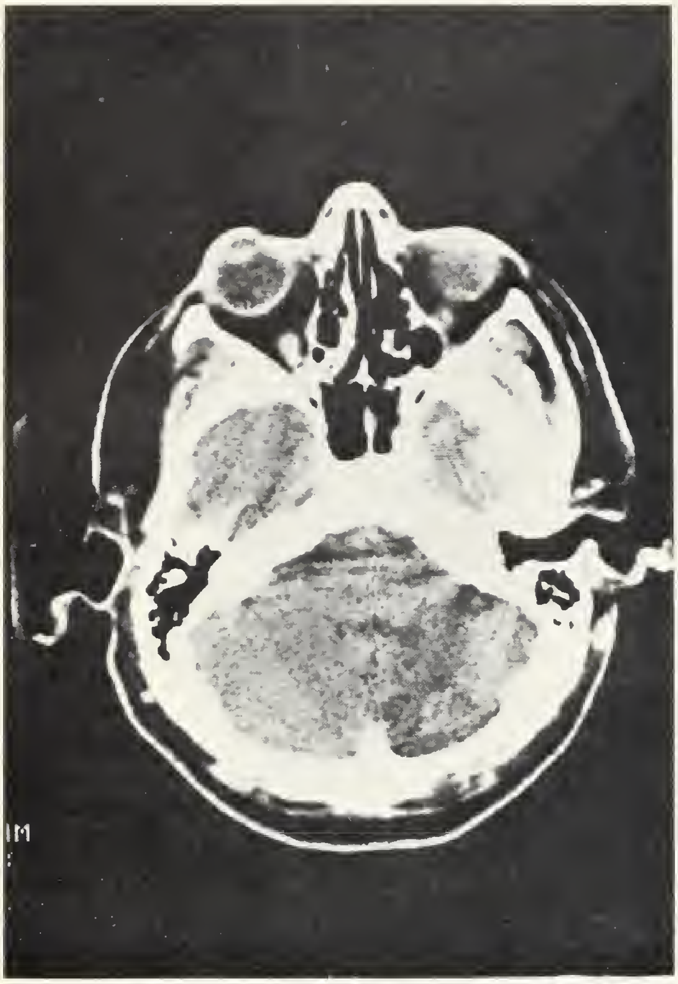

**Figure**
CT scan performed one year after discharge, demonstrating the presence of an old left cerebellar hemispheric infarct.

question, however, that other areas of the brainstem and possibly even the rostral cervical spinal cord and posterior cerebral artery territories were involved as well.

Two unusual features presented themselves in this case. 1) This type of injury has not previously been reported to occur in automobile accidents. Hyperextension occurs commonly in whiplash injuries, but in this case hyperextension occurred with axial loading and this latter component may be a very significant contributing factor. 2) Most patients with traumatic vertebral artery occlusion have the onset of their neurologic symptoms shortly after the injury with occasional cases continuing to deteriorate up to 24 hours later. This patient is remarkable in that his most significant neurologic deterioration occurred more than one week after his injury.

## The Approach to Differential Diagnosis

On admission to the emergency room, when the patient was noted to complain of vertigo and to have confusion, a left facial paralysis and bilateral Babinski's, the examining physician should recognize that dysfunction is occurring within the posterior fossa (vertigo, facial paralysis) as well as within both cerebral hemispheres (confusion). His first concern should be to ensure that a lesion in the posterior fossa was not precipitating hydrocephalus, or alternatively that a hemispheric lesion was not producing central herniation. A posterior fossa mass producing hydrocephalus is usually accompanied by a severe headache, as long as the patient is alert enough to complain. Central herniation presents with the pupillary changes of the diencephalic syndrome, followed by extrinsic and intrinsic ocular muscle paralysis. None of these symptoms or signs were evident in this case. An emergency CT scan confirms the lack of displacement of normal structures. The normal CT scan on admission however is quite compatible with recent infarction, as is the previous and subsequent stuttering course. The normal CT scan may also be seen in brainstem and cerebral contusion, a condition most severe at the time of injury, rather than more than one week later.

Having concluded that a stroke has occurred, the clinician must attempt to determine whether it was due to atherosclerosis or some other mechanism. The younger the victim the less likely it is to be atherosclerotic and the possibility of blood vessel disease or injury should be considered (vasculitis-ESR, VDRL, chronic meningitis - CSF; accelerated atherosclerosis - cholesterol, GTT). One should also consider alteration of blood constituents such as hyperviscosity syndromes, polycythemia, chronic lymphatic leukemia, primary thrombocytosis and thrombotic thrombocytopenic purpura.

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*Oncology*

# Guidelines for Physicians In Addressing Sexuality Concerns of Patients with Cancer

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## Introduction

In examining sexuality and its relationship to cancer and its treatment, three questions have been addressed in a recent study. These were: 1) Do patients want to discuss sexual concerns? 2) Who should initiate such a discussion? 3) How might it be initiated? The recommendations were: 1) Yes, patients do want to discuss sexual concerns. 2) Patients expect the physician to bring up the topic of sexuality. 3) Patients are less likely to go to a "sex counseling clinic" when experiencing sexual concerns and prefer a didactic approach (e.g., specific counseling with information).[1]

Although some attention has been paid in the literature to organ-specific, treatment-specific, and psychosocial correlates of sexual dysfunction with cancer patients, little attention has been paid to providing information and guidelines to the physician in eliciting and treating these sexual concerns.[2-4] Additionally, it has been noted that approximately 60% of all sexual problems can be managed in a clinical setting by the primary contact physician.[5] Where then does the physician begin in identifying and treating sexual concerns?

The purpose of this article is to: 1) summarize the range of organ-specific, treatment-specific, and psychosocial correlates of sexual problems that cancer patients may experience; and 2) provide a model by which to detect, treat, or refer a sexual problem to a sex therapy specialist.

## Defining "Sexuality"

Sexuality can be defined as having several components: 1) a person's view of himself/herself in terms of body image, attractiveness, worth, competency, and degree of satisfaction in experiencing pleasure; and 2) including a *variety* of behaviors including cuddling, stroking, kissing, touching, carressing, as well as masturbation and sexual intercourse. We view physical contact as a basic human need which often becomes that much greater when a person experiences a debilitating illness. Patients *do* need physical contact—the degree varying from individual to individual. Sexual intercourse may be a *part* of this contact, but not necessarily an essential part. Equally important is the patient's concept of himself/herself as a sexual being.

## Concerns: Organ-Specific

Organ-specific sexuality problems have been associated with several cancers, including: breast and gynecologic cancers, as well as cancer of the prostate, testis, penis, colon, bladder, and head and neck. Some of the initial sexual concerns that patients may experience following any surgical intervention may include:

1. *Sterility* — Will I be sterile?;
2. *Loss of libido* — Will I lose my interest in sex or my ability to perform?;
3. *Limitations on sexual activity* — How soon after surgery can I have sex? How frequently? Will I communicate my disease to my partner? Will intercourse promote infection? Lower my blood count? Hurt? Be too stressful?

It has been noted that although gynecologic cancers and breast cancer may not disrupt physiological functioning, they do affect a woman's sense of well-being and feminine identity.[6] As a result, sex dysfunction occurs, with women reporting difficulty in becoming aroused, lubricated, or achieving orgasm.

Patients with urologic malignancies—cancer of the prostate, testis, or penis—usually experience loss of sexual functioning in that the treatment may temporarily or permanently disrupt the mechanisms

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required for erection, emission, and ejaculation.[7] Additionally, following therapy, patients may experience pain, physical fatigue, depression, and anxiety, all of which may decrease sexual drive.[8]

Male stoma patients often experience impotence. Sex dysfunction is reported in almost all male patients following bladder excision and in 50% following A-P resection for cancer with colostomy.[9] While surgery can account for true physiological impairment in most cases, psychological effects of ostomies are also seen. Both male and female stoma patients have been reported to feel insecure, to find it difficult to resume social activities, and to regard themselves as social outcasts.[10]

Although no specific studies have been done on the relationships of head and neck cancers to sexual functioning, it has been reported that patients with this type of cancer experience a reduced level of social functioning as well as an increased dependency on others.[11,12] Sexual concerns are not about physiological functioning, but rather about losses in self-worth, attractiveness, and physical contact with partners.

**Concerns: Treatment-Specific**

Specific treatments for cancer have been reported to affect sexual functioning. For example, radiation therapy may cause temporary to permanent sterility in male patients receiving treatment to the pelvis for testicular tumors, leukemia, Hodgkin's disease, or non-Hodgkin's lymphoma.[13] Female patients with Hodgkin's disease who receive irradiation to the pelvis *without* oophoropexy *always* become sterile,[14] while those undergoing oophoropexy and lead shielding may also become infertile (≃50%).[15] Body image issues for both men and women receiving radiation therapy include the permanent markers or tattoos to the chest and back areas, and the loss of body hair (scalp, armpit, and pubic), often resulting in a patient's feeling like a child or feeling emasculated, mutilated, or embarrassed.

Sexual problems related to chemotherapy may include infertility in the male patient being treated for Hodgkin's disease with MOPP (meclorethamine [nitrogen mustard], vincristine [Oncovin], procarbazine, prednisone)[16] and in male patients receiving doxorubicin, cyclophosphamide, and high-dose methotrexate for the treatment of soft tissue sarcoma.[17] These chemotherapeutic agents, which do not always cause sterility in females, may still produce endocrine dysfunction leading to premature menopausal symptoms.[18] In addition to making sexual functioning difficult, this dysfunction can lead to more serious physiological conditions (i.e., osteoporosis, cardiac problems). Fortunately, in many cases, this can be managed by prescribing hormone replacement therapy.

When radiation therapy and chemotherapy are combined, gonadal toxicity is enhanced in both males and females.[15,18] In addition, recent studies indicate that preoperative cryopreservation of semen (sperm-banking) is not always a possibility, either because of poor semen quality[19] or because of decreased sperm counts at the time of diagnosis.

Other pharmaceutical agents, whether used alone for symptom management, or in conjunction with anticancer drugs, may have an adverse affect on sexual functioning. Such drugs include antihypertensives, anticholinergics, antihistamines, and psychoactives (e.g., antipsychotics, antidepressants, alcohol, marijuana, and sedatives, as well as opiates).[20]

Finally, the wide range of side effects (e.g., alopecia, anorexia, nausea, vomiting, fatigue) that a patient may experience while undergoing radiation therapy and chemotherapy may also affect sexuality.

**Concerns: Psychosocial Correlates**

A patient's identity as a sexual being is called intc question by the entire disease and treatment process Common issues are:

1. *Self-esteem* — Am I still attractive, useful, the same man or woman I was before?;
2. *Vulnerability* — Will I be abandoned or rejected?;
3. *Mutilation* — Despite my lost limb, am I still a whole person? Do I still belong?; and
4. *Mortality* — Should I resume intimacy when I know that I may die and make the loss for my loved one tha much more difficult?

Studies have shown that fears of unacceptability rejection, and isolation cause more anxiety in cance patients than do fears of recurrence, pain, and death.[2

Given the number of ways that cancer and it treatment can and do affect sexuality, we suggest model that the physician can use easily in detecting an dealing with a patient's sexual concerns.

**The PLISSIT Model**

The PLISSIT model, developed by Annon in 1974,[22] i a form of brief sexual therapy originally designed for th use of primary care physicians. The title is an acronym for the series of interventions a physician may emplo with patients. *P* is for permission; *LI* stands for limite information; *SS* is for specific suggestions; and *IT* mean intensive therapy—the point at which the physician ma need to make a referral to a qualified sex therapist. W will use the PLISSIT model to indicate useful ways fo the physician to help cancer patients with sexual issues

The process starts with a few questions by th physician regarding sexual functioning. These can b asked along with other routine questions abou toleration of treatment or the ability to work. Fo example: "Many cancer patients express concerns abou their sexuality. Have you noticed a change in your sexua satisfaction since you began treatment?" Or, "Do yo have any questions on how this surgery (or treatmen might affect your sexuality?" If the patient and his/he partner report no problems, the physician has at leas brought up the topic so that the patient may feel mor comfortable in discussing it at a later point.

**History Taking**

When initial questioning discloses sexual problems, brief sexual history should be taken which focuses o the current problem rather than the patient's entir sexual history. Five issues need to be covered. These ar

1. *Description of the Problem* — In the patient's terms, what is going on?

2. *History of the Problem* — When did it first occur? Is it chronic or episodic? What preceded the problem? Has it gotten better or worse?

3. *Cause of the Problem* — This is the patient's view, correct or not, of the source of concern.

4. *Previous Treatment Attempts* — What has the patient done or been doing to correct the problem, and how successful has self-treatment been?

5. *Goal of Brief Therapy* — What does the patient hope to achieve by discussing the problem with the physician? Is it a realistic outcome?[5,22]

## PLISSIT Model: Permission

The first level of intervention is that of allowing the topic of sexuality to be discussed in an open and straightforward manner. In order to do this, several things are necessary:

1. *Self-evaluation* — Decide on a level of intervention that is comfortable for you;

2. *Listen* — Allow the patient to describe his/her concerns and the current change that has taken place in physical and sexual areas;

3. *Acknowledge* — Acknowledge the patient's concern by providing positive support. Support might be shown by stating that the concern is valid and important, one that is often experienced by other patients, and one in which improvement can be made.

## PLISSIT Model: Limited Information

The second level of intervention, that of providing limited information to the patient, occurs when a physician describes to the patient the possible effects of various treatments (e.g., surgery, chemotherapy, radiotherapy) on sexual functioning, as well as the impact that emotions (fear, depression, anger) may have on libido and sexual function. It is helpful to describe the range of sexual expectations that a patient may have, given his/her physical condition, and to deal with any misconceptions or concerns. Most often these concerns relate to: 1) the appropriateness of maintaining sexual contact; 2) a fear of self-damage; 3) a fear of being contagious to the partner; 4) worsening of the prognosis or the tumor with active sexual contact; and 5) assumptions about losing sexual function altogether. It is important to stress that adequate sexual function is physiologically multifaceted, and that while some tumors or treatments may cause irrevocable loss, most are *not* causes of permanent or total loss. Thus, the difference between physical and psychological loss is rarely clear. What becomes important is that of *maximizing* sexual potential. Even a patient who has lost his penis or testes or her clitoris and vagina has sexual potential and can maintain physical intimacy.

## PLISSIT Model: Specific Suggestions

The third level of intervention occurs with patients whose situations require more than support and limited information. This is where specific suggestions (SS) are made and are followed by short sessions over a few weeks.

Specific suggestions, in general, are task-oriented and are given in manageable amounts so that the patient (and partner) can experience success in carrying them out. Strategies for suggestions include the following:

1. *Communication Enhancement* — The physician can act as a mediator and promoter of in-depth discussion between partners on the effect that the disease/treatment process has had on the relationship. A couple appearing angry, sad, or distant with each other can be given the homework assignment of spending ten minutes each evening in a private discussion of the events and feelings experienced by each during the day. After couples carry this out successfully for a week or two, the assignment can be enhanced by hand-holding or cuddling during these private talk sessions. Couples can be taught to actively listen to each other's fears and concerns, to give permission to the other for honest statements of feeling, and to learn to negotiate difficult issues. As a backup resource for enhancing communication, many church groups and civic associations hold marriage encounter groups or couples' communication workshops. Attendance may be useful to patients and also to physicians interested in improving their counseling skills. Bach's book *The Intimate Enemy*[23] is a good resource for more communication enhancement techniques.

2. *Education* — Assuming that the physician has given limited information in response to patient concerns, it may be appropriate to suggest educational material to a patient and partner. Books such as *The Joy of Sex*[24] or *A Good Age*,[25] read by both partners, will encourage discussion of sensuality and intimacy despite physical problems.

3. *Redefinition of Goals* — When intercourse is difficult or impossible, the physician can encourage a couple to touch, cuddle, or kiss to satisfy intimacy needs. For example, a young man, bedridden with Hodgkin's disease, was given sponge baths and massages by his wife. These were accompanied by candlelight, soft music, wine, and pleasantly scented soaps and oils. This ritual satisfactorily replaced much of their usual love-making. Even a very ill patient can give and get pleasure from body stroking and cuddling in such a session.

4. *Behavior Modification* — Negative or unsuccessful behaviors can be stopped and exchanged for gratifying ones once communition improves and goals are redefined. Intercourse, for example, is unlikely to be mutually satisfying or even to occur if one or both partners are depressed, anxious, angry, or in pain. The physician can suggest a ban on any sexual activity that is not mutually pleasurable while new behavior is encouraged. For example, a middle-aged woman with recurring breast cancer and her husband were angry and frustrated with each other over their diminished sexual contact. When intercourse occurred, it resulted in more anger and less satisfaction. The couple was advised to refrain from intercourse. After completing several communication exercises successfully, they were told to each ask for three intimate, touching acts during the

next week. The first week, the woman asked her husband to brush her hair, to give her a back rub, and to pamper her by putting her to bed and bringing herb tea after each chemotherapy. The husband asked for a head massage, a shower together, and a few minutes of cuddling before sleep. After a few weeks, the couple broke the intercourse ban, although they now continue the request lists as part of their new intimate behavior.

## PLISSIT Model: Intensive Therapy

The fourth and final level of intervention is that of intensive therapy. This intervention generally pertains to those patients who have experienced the following: 1) prior long-standing sexual problems; 2) severely disturbed or stressed marital relationships; or 3) long-term spousal alienation. When one of these conditions exists, the physician needs to identify a competent therapist (e.g., psychiatrist, psychologist, social worker, sex therapist) for referral and to provide that therapist with the necessary medical and social information. In Arizona, the Arizona Association of Sex Educators, Counselors, and Therapists (ASECT) in Phoenix can provide information on qualified sex therapists available in each area. In this way, both the needs of the patient for more intensive assistance as well as those of the therapist for adequate information relating to the physiologic aspects of the disease process are met. We emphasize the value of the physician's use of the PLISSIT model with patients, even in difficult cases where referral is necessary. The physician's involvement and concern increases the likelihood of the patient's follow-through with the therapist.

## Conclusion

In summary most cancer patients experience sexual concerns and prefer to have the topic of sexual functioning initiated by their doctor. The physician can introduce this topic by asking questions related to organ-specific, treatment-specific, or psychosocial sexual concerns. By using the PLISSIT model, these concerns may be lessened by acknowledging and listening to what is bothersome to the patient as well as by providing limited information as to the physiological and psychological basis of the difficulty. Depending on the time factor and comfort level of the physician, specific suggestions may be offered to lessen the stated difficulty. When more intense difficulty is noted, a physician may utilize the resources of an experienced marital/sex therapist.

We are aware that cancer specialists are often stressed by the demands of their profession and their high standards of patient care. Nonetheless, we have found that physicians who can discuss with their patients personal concerns such as sexuality derive considerable satisfaction from this helping role and that the doctor/patient relationship is greatly improved. We hope that in this article we have given physicians 1) permission to discuss sexual concerns; 2) limited information on organ-, treatment-, and psychosocial-specific sexual concerns; 3) specific suggestions on the inclusion of sexuality in their quality-of-life management with patients; and 4) information on referral for intensive therapy.

**Acknowledgement**

The authors would like to express their appreciation to Deborah Welch, R.N., M.S.N., Oncology Clinical Specialist/Consultant, Good Samaritan Hospital, Phoenix, Arizona, for her influence in the format and content of this article.

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Radiology

# Case of the Month No. 54

onathan M. Levy, M.D.
amuel J. Hessel, M.D.
aul W. Nykamp, M.D.
ary J. Stegman, M.D.
ohn K. Crowe, M.D.
ichard M. Spiegel, M.D.

ditors:
nathan Levy, M.D.
erald Pond, M.D.

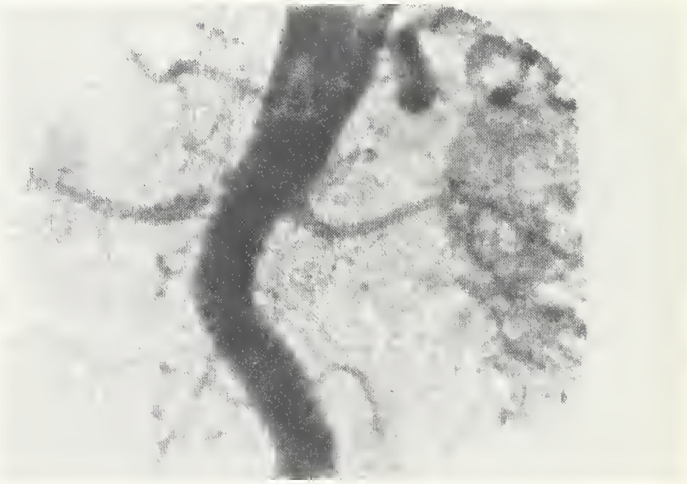

Figure 1

A 38-year-old lady has had hypertension for four ears. This has been controlled with medication. Prior to n intraveneous pyelogram, several special images are ken. (Figure 1)

What is the procedure?

What is the abnormally?

*Continued on Next Page*

---

om: The Department of Diagnostic Radiology, Scottsdale Memorial ospital, 7400 East Osborn Road, Scottsdale, Arizona 85251.

# Answer:

## Transvenous Digital Subtraction Angiography Right Renal Artery Stenosis with Poststenotic Dilatation.

Transvenous digital subtraction angiography (DSA) is a new technique which allows relatively non-invasive imaging of any arterial system. Pioneered at the University of Arizona, this technique has been most extensively used for the evaluation of cerebrovascular and renovascular disease, two of the major causes of morbidity in the United States today.

DSA is simpler, quicker, less invasive, and less costly to the patient than catheter angiography. Because it can be performed on outpatients, the costs of hospitalization for angiography are avoided. A catheter is placed through an antecubital vein, with its tip in the basilic vein or superior vena cava. Forty to fifty milliliters of contrast material (the same contrast as for an IVP) are injected, and images are obtained after allowing 4 to 6 seconds for the contrast to transit the pulmonary circulation. The computer subtracts a "mask" image (taken before the contrast material reaches the arteries) from each successive image, thereby removing all portions of the image which have not changed. In this way, the flow of the dilute contrast material into the arteries can be clearly demonstrated, and diagnostic images are obtained. (Figure 1) Because an antecubital venipuncture is done, outpatients may leave the x-ray department as soon as the exam is over. The potential risks of the procedure relate only to contrast material sensitivity, and therefore are of the same magnitude as for an IVP.

Patient motion during an image sequence constitutes the largest single problem in DSA. Any patient motion changes the subtraction register, degrading images and limiting diagnostic usefulness. Methods of resubtracting images (called postsubtraction) and of moving the subtraction mask (reregistration) are currently operative in some systems, and partially solv this problem. Low output cardiac states increase dilutio of the contrast material in the pulmonary circulation an heart, and this also can produce less than optim images. Nevertheless, early studies have shown tha 70% or more of subtraction angiograms are diagnosti

In our patient, right renal artery stenosis wa discovered on DSA prior to a routine outpatient IV Angiography confirmed the stenosis of the proxim right renal artery. (Figure 2) She is currently considerin the alternatives of surgery and percutaneou transluminal angioplasty.

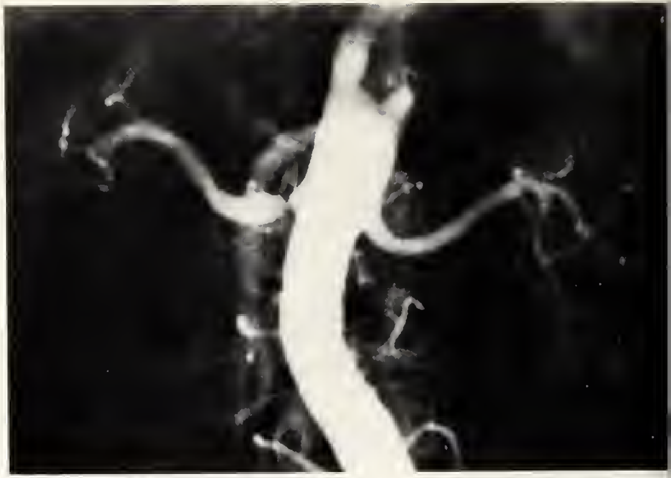

Figure 2

**Compare catheter arteriogram to DSA study. Note post stenotic dilatation on the right.**

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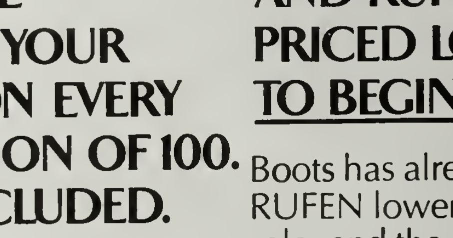

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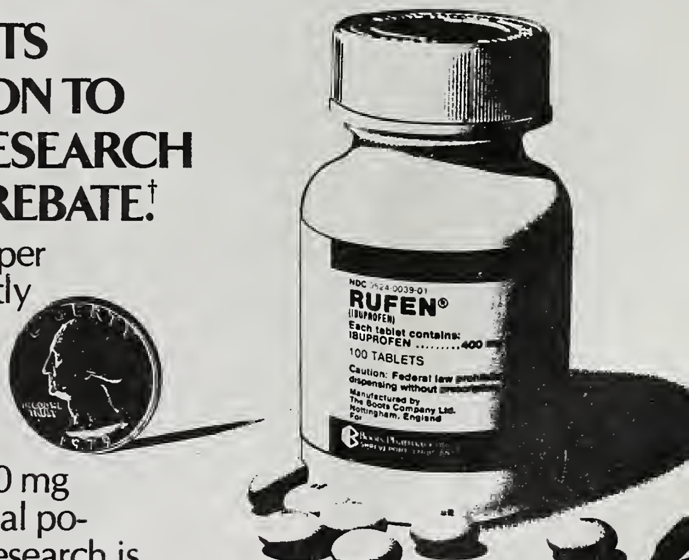

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ibuprofen, or with the syndrome of nasal polyps, angi
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**WARNINGS:** Anaphylactoid reactions have occurr
in patients hypersensitive to aspirin (see CONTRAINI
CATIONS). Peptic ulceration and gastrointestin
bleeding, sometimes severe, have been reporte
Peptic ulceration and gastrointestinal bleeding, som
times severe, have been reported. Peptic ulceratio
perforation, or gastrointestinal bleeding can end fatal
however, an association has not been establishe
Rufen should be given under close supervision to patier
with a history of upper gastrointestinal tract diseas
and only after consulting the ADVERSE REACTION
In patients with active peptic ulcer and active rheum
toid arthritis, nonulcerogenic drugs, such as go
should be attempted. If Rufen must be given, the patie
should be under close supervision for signs of ulc
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**PRECAUTIONS:** Blurred and/or diminished visic
scotomata, and/or changes in color vision have been
ported. If developed, discontinue Rufen and administ
an ophthalmologic examination.
Fluid retention and edema have been associated wi
Rufen; caution should be used in patients with a histo
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this therapy should be tapered slowly when adding Ruf
**DRUG INTERACTION:** *Coumarin-type anticoagulan*
The physician should be cautious when administeri
Rufen to patients on anticoagulants.
*Aspirin.* Concomitant use may decrease Rufen blo
levels.
**PREGNANCY AND NURSING MOTHERS:** Ruf
should not be taken during pregnancy nor by nursi
mothers.
**ADVERSE REACTIONS**
**Incidence greater than 1%**
**Gastrointestinal:** The most frequent adverse reacti
is gastrointestinal (4% to 16%). Includes nausea*, epig
tric pain*, heartburn*, diarrhea, abdominal distre
nausea and vomiting, indigestion, constipation, abdo
nal cramps or pain, fullness of GI tract (bloating a
flatulence). **Central Nervous System:** dizziness*, hea
ache, nervousness. **Dermatologic:** rash* (includi
maculopapular type), pruritus. **Special Senses:** tinnit
**Metabolic:** decreased appetite, edema, fluid retentic
Fluid retention generally responds promptly to dr
discontinuation (see PRECAUTIONS).
*Incidence 3% to 9%.
**Incidence less than 1 in 100**
**Gastrointestinal:** gastric or duodenal ulcer with blee
ing and/or perforation, hemorrhage, melena. **Cent**
**Nervous System:** depression, insomnia. **Dermatolo**
ic: vesiculobullous eruptions, urticaria, erythema mu
forme. **Special Senses:** amblyopia (see PRECAUTION
**Hematologic:** leukopenia, decreased hemoglo
and hematocrit. **Cardiovascular:** congestive he
failure in patients with marginal cardiac functic
elevated blood pressure.
**Causal relationship unknown**
**Gastrointestinal:** Hepatitis, jaundice, abnormal liv
function. **Central Nervous System:** paresthesias, h
lucinations, dream abnormalities. **Dermatologic:** a
pecia, Stevens-Johnson syndrome. **Special Sense**
Conjunctivitis, diplopia, optic neuritis. **Hematologi**
hemolytic anemia, thrombocytopenia, granulocytope
bleeding episodes. **Allergic:** fever, serum sickne
lupus erythematosus syndrome. **Endocrine:** gy
comastia, hypoglycemia. **Cardiovascular:** arrhythm
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# As I See It
# SB 1001
# Arizona Health Care Cost Containment System

With the enactment of SB 1001, AHCCCS, Arizona now joins with the other forty-nine states, in its own unique version of Medicaid. The need for the infusion of federal dollars into our system of care for the indigent and medically needy was a political one. Likewise, the decision to try a capitated prepaid reimbursement system as opposed to fee-for-service mode utilized by the other forty-nine states in their implementation of Medicaid was also a decision mandated by political preference. Arizona is now engaged in this three-year experiment which will find some of us destined to act as "providers" under the plan, all of us as taxpayers. Early on I made no political friends on the Hill by stating my personal feelings about the original version of the plan, namely that I felt it to be "unworkable, unacceptable and an economic illusion." The final version, now enacted legislation, has allowed some moderation in my views. By virtue of significant alterations in the extent of services offered, groups covered, insisted upon by HHS, and wording changes, insisted upon by your Association, I feel the plan can be made workable. I feel it will be found acceptable by many desiring to act in a provider capacity. It will bring financial relief for the county health programs. With careful implementation and proper emphasis, quality of care and access to care should not suffer in this population group. I do not believe it will prove effective in its cost containment features as envisioned by the bidding process with financial reimbursement to hospitals provided on a prospective basis and to physicians on a capitated prepaid mode utilizing "primary care providers" grouping as its base.

The general provisions of the Bill are being sent to all Association members for a general reference tool. An ad hoc committee representing the state medical association has been appointed to liaison with the Department of Health Services in the development of rules and regulations, particularly as they impact on provider services. There are many additional physicians via county medical societies and specialty groups being asked to contribute their expertise to various aspects of the plan in development of rules and regulations. Hopefully these can be appropriately channeled so a unified and meaningful effort will be achieved. The Department of Health Services, under Dr. James Sarn, is now engaged in the mammoth task of implementing the program, with a target date set for October 1982. The work of identifying potential providers, defining standards, developing criteria for determining qualified bids, developing contract formats, establishing rules and regulations for provider service, and developing methodology for the selection of providers is all in a developmental stage at this time.

Out of all of this, I think some relevant comments can be made:

1. The physician's concern about participation or non-participation should continue to focus on the uncompromising capacity to give quality care to those he or she serves. This will require individual decisions based on a variety of factors, e.g., location and type of practice, community need, personal feelings about method of payment and freedoms within the system, to name a few.

2. Successful operation of the AHCCCS will necessitate the ability to attract and maintain physician participation. The plan places primary emphasis on the use of capitated coverage for its enrollees particularly through primary care physicians. The language, however, does allow for fee-for-service coverage (the likely predominant mode for specialized services to SSI recipients, specialized procedures, and specialty referral not covered by HMO groups, non-enrolled providers for emergency services, and in rural communities where prepaid care is non-existent). I think it not unlikely that the flexibility required for proper implementation will and should allow for a mix of reimbursement modes utilizing each type in its most appropriate environment of population mix so that optimum cost containment without sacrifice of quality can be achieved.

3. Maricopa County Hospital, Kino Community Hospital, and their respective teaching programs will likely remain the dominant providers in their respective metropolitan areas provided they can maintain community and political support. The framework certainly exist in Maricopa County, via

existing satellite clinics and hospitals, which should allow an opportunity for primary providers from the private sector to make a positive contribution in some form of subcontractural arrangement.

4. The inclusion of non-indigents as possible enrollees under the plan will make management and implementation more difficult and expensive. Rewording of the final version of the Bill does give this group individual freedom of choice regarding entry into the program. Separate selective rating of this group from the indigent and medically needy population obviates any cost containment features. What we have under the plan, unfortunately, is a state run health care program rather than a successful effort to mainstream our indigent and medically needy population. But changes can be made and indeed our leadership directed toward constructive improvements in the plan will be necessary to encourage a continued committment of quality medical care to this group of Arizona Citizens.

In the final analysis, the present framework of the plan will bring financial relief to grieving counties. Hopefully, political wisdom will allow both time and flexibility to work their wonders. Both will be required to bring needed support from the physician community.

Clyde W. Kurtz, M.D.
President, ArMA

## Renal Transplantation

The University of Arizona Health Sciences Center and, indeed, Arizona's transplant program continues actively. This parallels the national experience. The number of renal transplants performed in the United States has gradually increased toward 4,500 per year. Of these, 37% are living related donor transplants and the remainder are from cadavers.[1] The expectation for a one year graft survival for living related renal transplants today is 78.6% and that for cadaveric grafts is 55%.[2] The one year patient survival rates for living related and cadaveric recipients are 95% and 88%, respectively. There has been a dramatic improvement in renal transplant recipient survival, achieved through the less aggressive use of steroid therapy for rejection in most transplant centers in spite of the inclusion of large numbers of high risk diabetic and older patients in the transplant population.

The loss of renal allografts in the first year is due primarily to irreversible rejection which occurs within the first three months of transplantation. The prevention of this rejection is the major goal of clinical transplantation today and can be achieved by better tissue typing of donor and recipient and/or by better immunosuppression.

The HLA-A and -B tissue typing utilized by many centers for selecting a donor for a specific recipient is not a highly reliable method for predicting prolonged allograft survival. In those cases where there are the best HLA-A and -B matches, there are a slightly better result than with the worse matches.[3] The fifty plus antigens in the HLA-A and -B system requires a very large national pool of recipients to allow for the best matching (4 antigen match) to be achieved at all times. Such has not proven practical up to this time.

The emergence of the HLA-DR tissue typing system with its limited eight antigens has brought tissue typing to the forefront again. The HLA-DR tissue typing system with its limited eight antigens has brought tissue typing to the forefront again. The HLA-DR antigens may be largely responsible for the induction of the immune response to the allograft. The eight DR antigens will allow a smaller recipient pool to achieve the 2 antigens required for a full match. The report of Ting et al.[4] indicates that HLA-DR typing may be a powerful tool and eliminate the need for other types of HLA tissue typing. However, confirmation of these findings by other groups with large numbers of recipients will be required.

The immunosuppression available today is mostly nonspecific in type: azathioprine, prednisone, antithymocyte globulin, and local radiation of the renal allograft. All of these are useful in the prevention and treatment of rejection, but they are associated with an appreciable morbidity and are responsible for most of the mortality due primarily to their nonspecificity.

The improvement in cadaveric renal allograft survival in the past few years from 40% to 55% is related to several factors. The administration of blood transfusions (usually five or more) to the recipient prior to transplantation has been demonstrated to cause a 20% increase in one year cadaveric survival. Why the RBC's and WBC's in the packed red blood cell transfusions have allowed these improved results is not understood. Some type of specific suppression of the immune response is theorized since the WBC's with their associated HLA antigens are required to achieve this blood transfusion effect.

Although no new forms of therapy have been widely applied clinically since 1967, cyclosporin A[5] is a uniq immunosuppressive that holds gre promise. Once control studies to lea how to use it properly are completed, t world-wide use of this drug will be additional potent nonspecif immunosuppressive agent. Specif immunosuppression remains to achieved.

There are 10,000 patients in the Unit States who are in need of a cadaveric ren allograft. The supply of kidneys has n increased in the past several years. T number of potential donors remai large, due to the number of motor vehic accidents. An increased mortality fro the victims of motorcycle accidents h developed since the repeal of the helm laws in many states. Brain death has be accepted as a legal definition of death the Arizona Supreme Court. For t number of organs for transplantati purposes to be achieved, all physicia must think about the need for orga Transplant teams are available to assist organ procurement activities in any pa of the state[6]

Charles F. Zukoski, M.D.
Department of Surgery
Louis J. Kettel, M.D., Dean
University of Arizona College of Medici

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6. Tucson (602) 792-1450, Ext. 366; Phoe (602) 257-4336.

# ddress of the resident

Without question, the 80s will stand as e of the most exciting and memorable cades in the history of our great untry. A political, economic, and social naissance is clearly in the making herein great challenges and portunities will abound. For medicine d the American Medical Association, a st of extraordinary scientific and litical events will occur.

The AMA is about to have another citing meeting. They get more exciting ch time. And the attention of the nation on all of you and the decisions you will ake.

There are many important issues fore the House of Delegates at this terim session. Among them is Report C the Board of Trustees on health anpower to which I draw your special tention and urge you to give careful ıdy.

This report clearly and responsibly scribes the role of health manpower in e production and allocation of medical rvices, a role that will change with a pidly changing environment. The port will help physicians make choices propriate to their needs and the needs their patients during these volatile nes.

I would also like to tell you something our very excellent relationship with esident Reagan and his administration. Dr. Boyle, Dr. Sammons, Mr. Miller, d I met with the President, Mr. Meese, d members of the White House staff t August. It was a highly productive eeting with a full exchange of ideas over broad range of health subjects. Since at time there have been a series of eetings between various members of r staff and the President's health team.

I am happy to report that our mmunication with the Reagan ministration is better than we have had th any administration, and I believe we ll be able to fully express the viewpoint the Association and be listened to tentively. We do indeed have an cellent and meaningful relationship.

Cost of medical care is a leading tional concern today. Our health care l was $247 billion in 1980, 9.4 percent the gross national product, an increase 15.2 percent over 1979, and the biggest annual rise in the past fifteen years. Private health costs were $143 billion, or 57.8 percent of the total. This was a drop in the private share of costs from 74.1 percent in 1965 when government assumed greater responsibility for health care of the poor, disabled, and aged. These are staggering sums unless viewed from the perspectives of inflation and economy, advances in medical technology, and increased demand for services.

Inflation alone accounts for 60 percent of the increased health cost. About 30 percent is attributable to increased demand per capita, and 10 percent is due to population growth. Improved technology, manifest by intensity of care, is a major factor in cost.

Infant mortality is an excellent example of technologic achievement. In my home state of Arizona, where I practice pediatric surgery and have seen the surgical care of children advance from primitive to highly sophisticated, we scored impressive gains in infant mortality through implementation of a state-wide system of detection of high-risk pregnancies, transportation, and neonatal intensive care centers. The result was a dramatic fall in Arizona's infant mortality rate from 17.3 percent to 8.3 percent over the last fourteen years.

I am proud of the Arizona program, which incidentally reflects a nation-wide effort, and to share in the satisfaction of observing its remarkable benefits. The cost were considerable, but the infant lives saved were well worth it.

Let me ask, what is cost effective medical care? Or what is the price of a life, as I saw headlined in a London newspaper that discussed cutting off dialysis money at age 50, or of a limb, or a heart, or a mind?

Good medical care achieves the optimal result possible for a given condition and circumstance. Cost effective care should be, at least in the minds of many, good care which is worth it. The difficulty comes in trying to agree what is worth what, when, and to whom?

Obviously, some prices are too high, and some even too low. But there is a range of middle ground where reasonable people agree that the price is right, and the care is well worth it. Within this range the vast bulk of medical care expenditures lie today, and that care is cost effective.

Let me further ask, do we spend too much for our health care in this country? Are health costs out of step with the general economy, and the needs of the people?

Is it too much for 94 cents out of every $10 we spend to go to save life, relieve pain, restore function, preserve productivity, and enhance the quality of our lives?

If the vast bulk of medical care demand in our country is met at a cost that is largely reasonable, which I believe is the case, then we spend about what is necessary to meet that demand.

But if the demand itself is excessive, which I also believe is true, then indeed we spend more than necessary.

The best way to achieve significant, long range control of medical care expenditures, without compromising quality or availability, is to cut the need for that care. This can be done.

Hospital costs were $99.6 billion in 1980, over 40 percent of the total health expenditures, and the largest single health expense item. Inflation is the primary cause of rising hospital costs, and labor and energy account for the great bulk of the expense, much of which is beyond control of individual hospitals. Today, a hospital stay averages close to $300 per day.

Clearly, alternatives to hospital care offer a major opportunity to control health expenditures. Ambulatory, or outpatient, surgery is an excellent example. There were approximately 24 million operations performed last year in the United States, and about one-third, or 8 million, were suitable for ambulatory care. Substantial savings are possible here because the facility cost for an outpatient operation is one-half that when the same is performed in a hospital.

Other alternates to hospital care, such as preadmission testing for patients going into the hospital, convalescent home care, and ambulatory treatment centers, also cut hospital days. In addition, ambulatory care is often more accessible and convenient and reduces patient anxiety.

If we actively encourage increased development and use of legitimate alternatives to hospitalization, such as I have described, we will effectively control costs of medical care without compromising quality.

Consumer choice and procompetition are modern terms for certain legislation that purports to address rising medical costs by creating incentives for the public to buy less expensive health insurance with a high front-end deductible.

There is much discussion on the definition of words like consumer choice and procompetition. Some in Congress want us to think that competition is something new in medical care. We know otherwise. There has always been competition. What we would like to see, from the AMA point of view, is a shift to the concept of consumer choice—and, in the legislative sense, to financial involvement.

In truth, consumer choice, unlike procompetition which primarily regulates, is far more than a legislative adjective. It denotes a perceptive modern philosophy in medical care. Consumer choice recognizes that patients will utilize

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esented during the American Medical sociation, Interim Meeting, Sunday, cember 6, 1981, Las Vegas, Nevada.

medical services more or less according to their personal responsibility to pay for those services, and that greater personal responsibility will discourage unnecessary utilization.

More important, consumer choice signifies our belief that care is enhanced overall if patients are fully involved in the choice, payment for, and evaluation of their own medical services.

If we further promote this broad philosophy of consumer choice and strongly emphasize the benefits patients will derive from greater personal involvement in meeting their health needs, significant control of utilization and expense can be achieved.

To enhance your clear understanding of competition as the word is being used in health care, I commend to you Report N of the Council on Medical Service which is before this House.

Now, some shocking facts: Smoking accounts for 350,000 premature deaths each year, 80 percent of chronic lung disease, 83 percent of lung cancer in males, 43 percent of lung cancer in females, 77 million excess work loss days per year (20 percent of all work loss days), and 150 million excess sick-bed days per year.

Smoking is a cause of arteriosclerotic heart disease, chronic pulmonary disease, respiratory tract cancer, cancer of the bladder, kidneys, pancreas, and peptic ulcer.

Smoking in pregnancy retards fetal growth, increases spontaneous abortions and neonatal deaths, and leads to deficiencies of growth and development of the child.

The life expectancy of a young man between thirty and thirty-five years old, who smokes two packs of cigarettes a day, is shortened by nine years.

In 1977 there were 464,000 cases of alcoholism in short-stay hospitals alone, over 106,000 cases of cirrhosis of the liver, and 18,000 cases of alcoholic psychosis.

The average hospital stay for a case of primary alcoholism is eight days, and this accounts for more than three million inpatient bed days per year.

There were 53,000 vehicular accident deaths last year, and two million disabling injuries. Half of the deaths and one-fourth of the injuries were caused by drinking.

Traffic accidents are the leading cause of deaths in young people. Half are alcohol related.

Falls are second only to vehicular accidents in accidental deaths, and cause 60 percent of the total injuries.

Half of the fatal falls are caused by drinking, half of the deaths from fire, half of the drownings, and half of the suicides.

People who follow good health habits such as not smoking or drinking, regular exercise, proper weight maintenance, and regular sleep, will live five to ten years longer.

You all know the horror stories. In fact, much of the smoking data came from a superb report prepared by our own Council on Scientific Affairs just two years ago, and some of the figures on vehicular accidents are in Report LL of the Board of Trustees which is before you at this meeting.

Given the clinical facts, I ask you, for the moment, to confine your attention to the cost aspects. The impact is staggering.

According to federal estimates, illnesses and accidents caused by damaging life patterns account for more than half of the $247 billion total health care expenditures in this country.

Think of it. We spent nearly $125 billion last year on largely preventable illnesses and accidents, Clearly, prevention could save enormous sums, far more than all other cost containment efforts combined.

In addition, prevention will enhance well-being and quality of life. And although the immediate savings from prevention will be partially offset by cost shift to a later time and a different medical need, the overall benefits will remain substantial.

For many years the Association has assiduously informed the public of the disastrous health consequences of smoking, drinking, accidents, and other life pattern aberrations. Physicians have individually led the way, and we have made substantial gains.

But we must not relent. Our campaign to educate the profession and the public must be intensified, and major new emphasis laid on the enormous dollar savings possible through prevention.

We have a distinguished record in cost containment. Our National Commission on the Cost of Medical Care, our partnership in the Voluntary Effort, our cost containment programs with state societies, and our legislative activities have been effective. Now we must increase that effort, redefine our objectives, expand our present programs, and undertake new and innovative approaches.

I have described three such approaches where significant cost containment can be achieved by controlling demand without sacrifice of quality or availability: 1) alternatives to hospitalization; 2) expansion of consumer choice philosophy; and 3) prevention through improved patterns of living.

Each afford our Association an opportunity to lead the private sector to substantial and realistic cost containment without government regulation. I recommend these programs to you.

I further believe we should aggressively promote a fundamental, coherent, and long-range national poli
on the cost of medical care which contai
at least the three following principles:

1. Quality and availability of medic
care must be maintained.

2. Cost containment must n
adversely affect quality and availability

3. Control of demand is the mo
effective way to control costs.

Every cost containment proposal f
health care should be tested against su
a policy.

And finally, I am proud to report th
physicians have vigorously resisted t
powerful inflationary forces that aboun
and have voluntarily restrained the ra
of increase of professional fees to a lev
less than the national average. This
hard evidence of the profession's intent
control the costs of medical care.

But again, we must not relent, and I c
upon every physician to continue
restrain fee increases, and to impleme
individual programs of cost awarene
and efficient business management
their practices in order to achieve realist
cost containment.

When I addressed you during m
inaugural ceremony last June, I said, "O
agenda for the 80s must inclu
innovative and dynamic cost programs.
we do not affirmatively lead the priva
sector in cost containment, we will ha
that initiative torn from our grasp."

We have provided that leadership.

Today, six months later, the need f
strong leadership to contain cost and
promote an effective national policy
the cost of medical care is even mo
urgent.

It is imperative and logical that t
American Medical Association contin
that leadership.

Daniel T. Cloud, M.D.
President,

American Medical Association

# Briefly Noted

Congratulations from the Arizona Medical Association to these recently elected County Medical Society officers who will serve during 1982:

**Cochise:**

President—**Richard H. Weyer, M.D.**, Sierra Vista; Vice-President—**William C. McCormick, D.O.**, Sierra Vista; and Secretary-Treasurer—**John B. Sawyer, M.D.**, Sierra Vista.

**Coconino:**

President—**Tomas E. Vorpaehl, M.D.**, Flagstaff; Secretary-Treasurer—**Leonard A. Wright, M.D.**, Flagstaff.

**Graham:**

President—**Thomas F. Griffin, Jr., M.D.**, Safford; Vice-President—**Bruce Curtis, M.D.**, Safford; Secretary—**Jogeswar Rath, M.D.**, Safford.

**Greenlee:**

President—**Joseph S. Magill, M.D.**, Morenci; Secretary-Treasurer—**Jorge O'Leary, M.D., Morenci.**

**Maricopa:**

President—**John C. Bull, M.D., Phoenix; President-Elect—Robert V. Stephens, M.D.**, Phoenix; Vice-President—**Robert E. Westfall, M.D.**, Phoenix; Secretary—**R. Michael O'Harra, M.D.**, Phoenix; Treasurer—**Marvin C. Schneider, M.D.**, Phoenix.

**Mohave:**

President—**Walter K. Sosey, M.D.**, Lake Havasu City; Vice-President—**Morris E. Powell, M.D.**, Riviera; Secretary-Treasurer—**Merton W. Olson, M.D.**, Lake Havasu City.

**Navajo:**

President—**Armando Olivares, M.D.**, Holbrook; Vice-President—**Rosalinda F. Casanova, M.D.**, Holbrook; Secretary-Treasurer—**Norton Freedom**, Holbrook.

**Pima:**

President—**Robert S. Hirsch, M.D.**, Tucson; President-Elect—**Christopher T. Maloney, M.D.**, Tucson; Vice-President—**William N. Neubauer, M.D.**, Tucson; Secretary-Treasurer—**Ronald P. Spark, M.D.**, Tucson.

**Pinal:**

President—**Manuel Ma. Guerrero, III, M.D.**, Casa Grande; Secretary-Treasurer—**Romeo B. Fandino, M.D.**, Casa Grande.

**Santa Cruz:**

President—**Karl L. Meyer, M.D.**, Nogales; Secretary-Treasurer—**Delmar R. Mock, M.D.**, Patagonia.

**Yavapai:**

President—**Kenneth L. Raessler, M.D.**, Prescott; Vice-President—**Stephen W. Dahn, M.D.**, Prescott; Secretary-

More than 125 ArMA members from around the state registered for New Horizons in the Management of Insulin-Dependent Diabetic, the first program in the ArMA-sponsored Current Perspectives CME series. Standing (left to right) are members of the faculty: Robert L. Nielsen, M.D., the Mason Clinic, Seattle; Michael A. Bush, M.D., U.C.L.A.; and Philip Levy, M.D., Jerome H. Targovnik, M.D., Laurance B. Nilsen, M.D., and Neil Trachtenberg, M.D. of Phoenix. Not shown — Stanley R. Shorb, M.D. of Phoenix.

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Elections have not as yet been held in Apache and Gila Counties.

**Robert A. Price, M.D.**, of Phoenix added another honor to his long list of accomplishments in November when he was one of ten physicians selected as "Family Doctors of the Year" by *Good Housekeeping* magazine and the American Academy of Family Physicians.

**Raymond C. Pogge, M.D.**, who practiced in Casa Grande for ten years, retired January 1, 1982. Dr. Pogge plans to write four books, one each about the four types of medical practice he has been involved with during his life.

**Martin G. Fronske, M.D.** of Flagstaff was elected into the Northern Arizona University Hall of Fame for his accomplishments in treating NAU athletes from 1914-1968. Dr. Fronske won the Bronze Medal in High Jumping at the 1908 Olympics.

**Charles W. Swetman, M.D.** of Flagstaff was program director for Coconino County's Annual Midwinter Seminar which was held January 27-30. 1982, in Telluride, Colorado.

## *Chairman's Report*

# Articles of Incorporation and Bylaws Committee

The word "Bylaws" to many members of many organizations is like waving a red flag in front of a bull. We know, however, that it is the motion, not the red color, that aggravates the bull. So, too, we should know that bylaws are not that aggravating. The opposite reaction is to ignore the bylaws and then wonder why problems arise.

Bylaws are the fundamental rules or laws of an organization. These basic rules relate principally to itself as an organization, rather than to the parliamentary procedure that it follows. Bylaws will vary according to the size and activity of an organization but will generally contain, at least, the name, its objects, members, officers, meetings, executive board, committees, parliamentary authority and amendments. Bylaws are the most important rules which an organization must compose for itself and it should be a unified document.

While there are no specific rules and an organization may have wide latitude in writing its bylaws, certain factors must be considered. The intent should be specific but, as necessary, general enough to allow future modifications without changing the intent. The language should be clear and concise and should avoid any questions of misinterpretation. Where future changes are anticipated, the wording, if it is to be included at all, should be general enough to allow changes. The entire function and operation of the organization must be kept in mind throughout the writing of bylaws so there will be no conflict between different sections.

Amending the bylaws is the most common point of contact of members of an established organization. Circumstances may warrant a simple change, introduction or elimination of a single item. The efforts of the Articles of Incorporation and Bylaws Committee this year illustrates an occasional necessary action. The entire bylaws were reviewed to eliminate the content that is no longer appropriate, to allow conformity with current practices of the Association, and to provide more effective services to the members. The many proposed changes will be presented to the House of Delegates at the Annual Meeting.

Charles E. Henderson, Chairman
Articles of Incorporation
and Bylaws Committee

## *Medical History*

# Military Medicine on the Arizona Frontier Circa 1870-1880

John W. Kennedy, M.D.

Following the close of the Civil Wa
miners, prospectors, and ranche
resumed the trek into the Southwe
The frontier army posts had be
abandoned or severely depleted of troo
by the needs of the war effort in the ea

With the influx of miners, settlers, a
travelers there began again t
depradations by the Indian raiders. T
brought the troops back.

The Arizona Apache, fighting for hor
and game land, met their match in o
General Crook. He ran no garris
campaign, but one of continuous fie
pursuit and destroy missions. He beca
a scrouge to the Indian desperado
While Crook defeated them, he alwa
kept his promise to the Indians and f
this they respected and trusted hi
Unfortunately, the same cannot be sa
for many Indian agents and other tro
commanders who were sent to the are

The number of active military posts
the Arizona Territory varied. One of t
last to be established, in 1877, was Fo
Huachucha. It has remained continuous
an active post, with a short hiatus aft
World War II and with a modern missio
it still retains the barracks, warehouse
quarters and parade grounds as it was
the Geronimo campaign days.

If you would care to test your locati
knowledge of Arizona Territory forts a
camps—give these place names a try. Fo
Yuma—well, that was easy, but it w
really on the California side, t
warehouses were on the Arizona sid
Fort Mohave, one time terminus of t
Colorado River steamboats and of t
Mohave Trail, a land supply route for t
Army across California; Camp Bea
Springs noted for its clear spring wat
and named for Lt. Beale, of the Arn
Camel Corps fame; Fort Whipple, now
Veterans facility; Camp Verde, Fo
Apache, Camp Reno, Fort McDowe
Camp Crittenden, Fort Grant, Can
Stephen D. Little and Fort Bowie. If y
are still with us, try Fort Lowell, Fo
Defiance, Camp Hualapai, Camp Lincol
Camp Supply and Camp Thomas. The
are others but this gives you an idea of t

**Fort McDowell 1981 — Hospital Steward's Quarters. The hospital has long since disappeared.**

**Fort McDowell 1981 — Ruins of the Headquarters Building.**

despread troop activity between 1851 ien the First Dragoons arrived at Fort fiance and 1899 when the 25th antry served at Fort Huachuca.

Medical officers who accompanied ese troops were a varied lot. A few were gular Army doctors, such as Leonard ood who arrived in 1885 and made the t Geronimo Campaign with Captain wton based at Fort Huachuca. His later reer was distinguished and varied, such physician to President McKinley; ommander of the Rough Riders, Teddy oosevelt was the Executive Officer; ilitary Governor of Santiago and vana Cuba, Army Chief of Staff, and er Governor General of the Philippine ands. Walter Reed served at Fort pache (1876) long before his yellow ver exploits in Cuba.

But, the greater proportion were ntract surgeons. Acting assistant rgeons who signed for a stipulated riod of service. John Charles Handy me to Arizona as a contract Army rgeon; he later entered private practice Tucson, and became the first ancellor of the University of Arizona. met an untimely death from wounds stained in a gun fight on the streets of cson. Goodfellow, of Tombstone, de an emergency trip to consult, erated; but the patient succumbed of ltiple abdominal wounds.

More is known of some of the hospital ilities, at the Army forts, than of the ysicians who manned them, in these mote areas with meager knowledge, pplies, or for that matter, hospital ilities of any consequence.

A trove of data on the physical aracteristics of posts and stations of s era is contained in *Circular No. 4* from e Surgeon General's Office dated 1870 John S. Billings, Assistant Surgeon, S. Army. This covered all of the active sts in the continental United States.

And lest you forget who Billings was d what a prominent part he played in edicine during his time, you should be minded that he served as a combat rgeon during the Civil War and ereafter for thirty years in the Surgeon eneral's office. He began the Index edicus, which was later the Quarterly mulative Index of Medical Literature; signed the Johns Hopkins Hospital; aired a committee that modernized the nitation system of Memphis, nnessee after a yellow fever epidemic; ganized and served in various official pacities of the American Public Health sociation and designed the hospital for e University of Pennsylvania Medical hool; designed the Peter Brigham ospital in Boston, Massachusetts; and e city hospital in Sydney, Australia. is gives you a glimpse of the despread talent and interests of John lings. This *Circular No. 4* was derived from material which he compiled from reports of the medical officers on field duty at the various posts.

So what were the conditions, medically speaking in these areas? For the most part, abysmal even by standards of that day.

A report on Camp Lowell, Tucson, Arizona Territory reads in part: "The Post is on the eastern outskirts of the old Mexican town of Tucson." Then followed a description of the terrain and climate. The report continues, "The camp consists of two lines of A tents with a street in between them. These are the quarters for the men. The mess room consists of two hospital tents, roughly fitted together, with tables and benches. The hospital is an old adobe building on the main street of the town, at a distance of about one thousand yards from the camp. Even were this building in good condition, its position in the center of the town, its proximity to the irrigated fields in the river bottom, its distance from camp, and the smallness of its rooms, render it undesirable as a hospital; but when, in addition to this, its leaky roof, worn out floor, and rain washed walls are taken into consideration, and the series of old sinks that are covered up in its enclosure, it is found to be totally unfitted for such a use." The report goes on to say that all of this was appreciated by the post commander and medical officer and that they had applied for permission to build an adobe hospital of twelve beds but this was not favorably considered. "There is no well attached to the building; all of the water used in the hospital has to be carried from the well about four hundred yards distant. Water could readily be found in the hospital enclosure but the presence of sinks forbids the sinking of a well in this place. Medical supplies are obtained from San Francisco, a year's supply being required at one time. There are about two thousand inhabitants consisting of American and Mexican people in the town."

In 1869 the mean strength was 103, there were 227 cases of illness, 114 of malarial fever, six of scurvy, six of venereal disease and two deaths.

At Camp Grant, Arizona Territory, the information was furnished by the Assistant Surgeon, Charles Smart, United States Army. He reported "The hospital at first consisted of a building 30 by 16 feet which is the ward; but recently a wing was added to it, 18 by 18 feet, as a dispensary, storehouse and surgeon's office. The ward is furnished with eight iron bedsteads, and has an average occupation of eight, giving per man 650 feet. Often there are more patients admitted than the hospital can accommodate and in this case hospital tents are pitched adjoining and furnished with iron bedsteads." He goes on to describe something of the food. He said that vegetables were obtained from the subsistence department preserved in cans, but the main supply was from the Company gardens in the river bottoms. Onions and potatoes were sometimes brought from Sonora via Tombstone, at 25 cents per pound. Chicken and eggs were scarce, having to be brought from Tucson or Maricopa Wells, while butter was almost unknown.

"The diseases are all malarial, and prevail to such an extent during the autumn and winter months as to unfit the garrison for any active service. In 1868, fevers were so general that the affected troops had to be moved from the post to a temporary convalescent camp, 28 miles south, on the road to Tucson. In 1868, they reported 296 cases of illness with 1731 were malaria, 266 with dysentery, five with venereal disease, 27 with scurvy and two deaths." In these records the cause of death is not listed.

Camp Mohave over on the Colorado River, was reported by Acting Assistant Surgeon, F. S. Stirling and he described the hospital, "The hospital is an old, dilapidated stockade building, not worth repairs, with dirt roof and floor. A new building is much needed, and will be commenced as soon as possible, the work to be done by the troops. The present hospital is warmed by means of fireplaces, lighted by windows. The ventilation is deficient. The ward contains six beds. There are no bath or washrooms; a bathing tub is used in the ward."

"The supply of water is afforded by water carts at the river, and that used for drinking purposes is cooled in 'oyers' or earthen jars covered with matting. The water of the Colorado, although muddy, does not produce diarrhea or other unpleasant effects.

"Subsistence and other stores are received by light draught steamboats on the river. Vegetables are scarce. Potatoes and onions are brought 250 miles from California. Milk costs $1.50 per gallon; butter $1.00 per pound; eggs $1.00 per dozen; potatoes 12 to 15 cents per pound. In 1868 there were 263 cases of illness reported with 26 malarials, 35 diarrhea and dysentery, 61 venereal disease, 11 of scurvy and 3 deaths."

Assistant Surgeon Charles Smart reported from Camp Verde and he described the hospital as, "A small log house, 15 by 13 feet containing three beds." He further stated, "There was no mess room, the men eating their rations in quarters. The Officers Quarters, miserable hovels, that of the Commanding Officer, being formed of rough boards with gaping seams. Its size was 12 by 13 feet." The log hospital was soon abandoned and he states, "The sick were then placed in a ward of hospital tents, with an adobe fireplace and chimney built at one end. The average occupation of this was seven men." He reported that in 1869 there were 146 cases of illness with the main strength of 69 men. There were 51 cases of malarial fever, 21 of dysentery, 2 of venereal disease and no deaths reported.

Camp Whipple was reported by Assistant Surgeon P. Middleton. It was one of the oldest posts and was the headquarters of the Military District of Arizona. He noted that the building used as a hospital was originally erected in 1864, as the quarters for the Commanding Officer, District of Arizona. "It is a strong structure of hewn pine, floored, ceiled and plastered, well lighted, with ridge ventilation, and warmed by open fireplaces and stoves. It can accommodate 24 patients. It has a kitchen, a dispensary and a storeroom with furnishings complete and in excellent condition. The bath and washroom has the water supplied from tanks and the waste water carried out by lead pipes. It is situated on an elevated ridge about midway between the post and the town, with some shade trees around it."

He continues, "One great objection to this hospital is its distance from the post, and among other things, the consequent labor required to keep the tanks supplied by the water wagons. There is no ambulance at the post." He noted that the market price of vegetables is 20 cents a pound. The cavalry companies have suffered considerably from sickness due to lack of fresh vegetables, their frequer
absences from the post, placing them on
poor ration, the hard riding, want
sleep, exposure while scouting, and th
poor quarters to which, until recentl
they have had to return to for rest. I
addition to scurvy, and its freque
accompaniment, diarrhea, intermitter
and remittent fevers are the only diseas
present at the post and its vicinity."

The mean strength was reported
206, the number of illnesses was 188,
with malaria, 36 with dysentery, 18 wi
venereal disease with other scatter
cases of rheumatism and phthisis but r
deaths reported that year.

From this brief account it is qui
evident that at the time of this repo
1870, the hospital facilities, the sanita
facilities, and the rations at these cam
and posts left a good deal to be desire
The troops seemed to suffer from scurv
and it is rather strange that there w
little, or not enough, communication wi
the Indians to learn how they managed
survive without its incidence. There mu
have been some native "greens" whi
the Indians used in their diet to preve
this disease. In my reading of accounts
conditions among the Indians, I have n
read anything about scurvy being
indigenous disease among the nati
Americans.

The physicians who served with tl
Army in this period and in this Territo
had very primitive hospital facilities, tl
medical and surgical equipment w
sparse, malaria was endemic and so w
scurvy.

The 1871 *Circular No. 3* from tl
Surgeon General's office consisted of
rather complete report of surgical cas
treated in the Army of the United Stat
and there is a section devoted to "Arro
Wounds."

A Private, Robert Nix of the 14
Infantry, was wounded near Can
Lincoln, Arizona Territory in Octob
1868 and died the next day, sufferi
multiple arrow wounds.

A Private, Andrew Snowden of tl
14th Infantry, while stationed at Fo
McDowell, on March 22, 1866, w
struck on the back of the head by
arrow which penetrated his skull. It w
said that he was nine days traveling
Maricopa Wells from the place where
was wounded. He lived for about thr
weeks and post mortem showed a bra
abscess.

Some other casualties were mo
fortunate. Private William Drum w
wounded in a fight with the Apacl
Indians on November 11, 1867 and w
admitted to the post hospital at Fo
Whipple the following day. His fa
wound healed by first intention and
December 3, 1867 he returned to dut
Private Thomas Dutton had an arro
wound of the neck, and was admitted tl

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*Write "D.A.W.," "No Sub," or "Medically Necessary," as your state requires, to make sure your patient receives the original allopurinol.*

Wellcome

**Burroughs Wellcome Co.**
Research Triangle Park
North Carolina 27709

Motrin® vs aspirin w/codeine...
(ibuprofen)

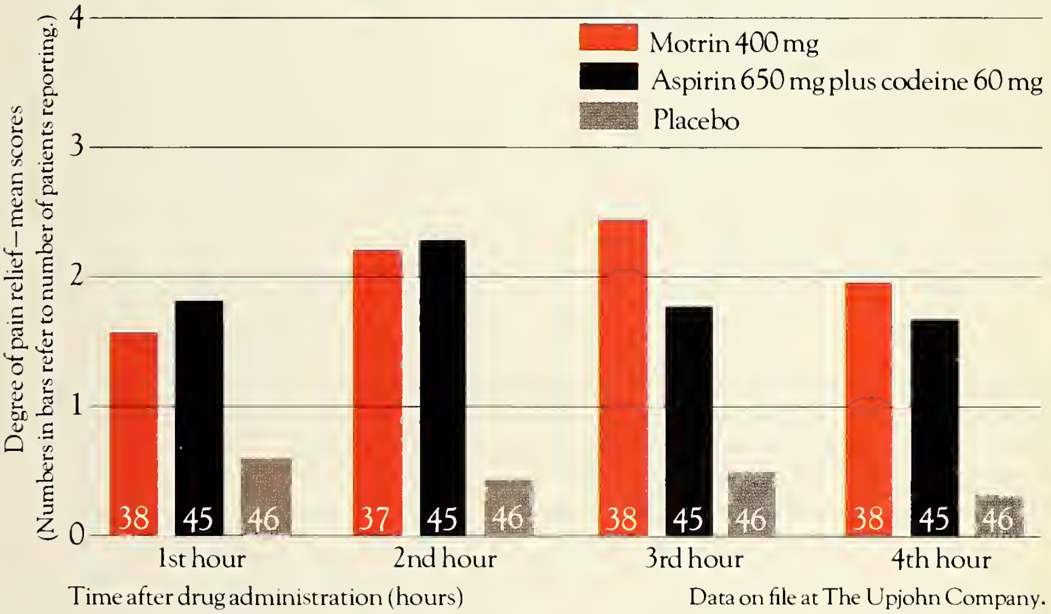
©1981 The Upjohn Company

# compare the analgesic effect

A *Motrin* 400 mg dose relieved postsurgical dental pain as effectively as a combination of 650 mg aspirin and 60 mg codeine (two aspirin-with-codeine No. 3 tablets) in a study of 129 patients. In this double-blind, placebo-controlled, randomized study, no statistically significant difference in relief of pain was noted at 1, 2, and 4 hours between the *Motrin* and aspirin-with-codeine groups... with *Motrin* being significantly more effective ($p = 0.03$) at the three-hour interval. Active treatment was significantly more effective ($p < 0.0001$) than placebo at all time intervals.

**Comparison of pain relief**
**Motrin vs aspirin-codeine combination**

4 = Excellent relief  3 = Good relief  2 = Fair relief  1 = Poor relief  0 = No relief



**One tablet q4-6h prn**
**For relief of mild to moderate pain:**

**Motrin® 400 mg TABLETS**
**ibuprofen, Upjohn**

• Not a narcotic • Not addictive • Not habit forming • Nonscheduled • Acts peripherally • Relieves pain rapidly • Relieves inflammation • Indicated in acute and chronic pain • Well tolerated (The most common side effect with *Motrin* is mild gastrointestinal disturbance.)

Please turn the page for a brief summary of prescribing information.

**Upjohn**

# Motrin® (ibuprofen) now proved an effective analgesic for mild to moderate pain

**Motrin® Tablets** (ibuprofen, Upjohn)

**Indications and Usage:** Relief of mild to moderate pain.

Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

**Contraindications:** Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

**Warnings:** Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

**Precautions:** Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

**Drug interactions.** *Aspirin*: Used concomitantly may decrease Motrin blood levels. *Coumarin*: Bleeding has been reported in patients taking Motrin and coumarin.

**Pregnancy and nursing mothers:** Motrin should not be taken during pregnancy nor by nursing mothers.

**Adverse Reactions**

***Incidence greater than 1%***

**Gastrointestinal:** The most frequent type of adverse reaction occurring with Motrin is gastrointestinal (4% to 16%). This includes nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness,* headache, nervousness. **Dermatologic:** Rash* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

*Incidence 3% to 9%.

***Incidence less than 1 in 100***

**Gastrointestinal:** Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

***Causal relationship unknown***

**Gastrointestinal:** Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

**Overdosage:** In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

**Dosage and Administration:** Rheumatoid arthritis and osteoarthritis, including flares of chronic disease. Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d.
Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.
Do not exceed 2400 mg per day.

**Caution:** Federal law prohibits dispensing without prescription.

For additional product information, see your Upjohn representative or consult the package insert.

**Upjohn**
THE UPJOHN COMPANY
Kalamazoo, Michigan 49001 USA

MED B-4-S

J-8260-4

MARCH 1981

It's time we took arthritis seriously

It's a myth that arthritis is just the minor aches and pains of old age. It's a major crippler that attacks. Anybody. Anytime. 31 million Americans have it. There are almost a million new cases a year. And six out of ten are under 60. Symptoms can come and go for years. So if you don't know the warning signals, find out. If you'd like information that could help you—or you'd like to help us—write to the Arthritis Foundation, Box 19000, Atlanta, GA 30326.

ARTHRITIS FOUNDATION

ay after his injury to the post hospital at amp Crittenden. He recovered and eturned to duty a week later. Private eorge Dugan of the 8th Cavalry was vounded near Camp Willow Grove, rizona Territory on November 8, 1867, y an arrow which penetrated the osterior side of his chest. He died ecember 17, 1867. At autopsy the arrow vas found to have penetrated the chest a ttle above the diaphragm, and the head f the arrow was lying in contact. There vas also an abscess at the same site.

Private Conrad Tragesor, of the 8th avalry, was wounded by the Apache ndians, at Sunflower Valley, on March 9, 870. The arrow entered the left side bout four inches from the spine above he crest of the ilium and from below pward. The kidney was evidently njured as the patient passed bloody urine n small quantities. He was conveyed by mbulance to Camp McDowell a distance f thirty miles, over a rough stony and illy road and died the next day.

In discussing these cases the following uote may surprise you. "The force with vhich arrows are projected by the Indians s so great that it has been estimated that he initial velocity of the missile nearly quals that of a musket ball. At a short istance, an arrow will perforate the rger bones without comminuting them, r causing a slight fissure only, esembling the effect of a pistol ball fired hrough a pane of glass a few yards off.

"I have frequently been informed, by fficers who served on the Plains, that it vas not infrequent for an Indian to send n arrow fairly through the body of a orse or the buffalo, provided the missile ntered one of the intercostal spaces, and id not impinge on bone on the opposite ide."

So as we go about our hospital duties, nd grouse about the nursing service, the -ray service, and the paper work; stop nd reflect for a moment, or at least five econds, about the problems which faced ur predecessors who came with the rmy to Arizona Territory just about one undred years ago.

hotographs by John W. Kennedy, M.D.

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# *ArMA Reports*

**The minutes appearing in this section have been condensed. A complete copy of the minutes of any meeting will be mailed to any member requesting them.**

## GOVERNMENTAL SERVICES COMMITTEE

The Governmental Services Committee met on November 18, 1981.

The position paper on Health Planning was discussed in detail with revisions being made. It was moved and carried to accept the proposed position paper on Health Planning as amended. It was also moved and carried to distribute the policy to county societies and various health planning agencies. It was recommended to submit the revised position paper on Health Planning to the Board of Directors for approval.

Dr. Kossuth talked to the committee about voluntary locally-based planning, stressing the importance of physician representation and participation at these meetings. It was moved and carried to forward the report of the AMA on Voluntary Locally-Based Health Planning to the county medical societies with the notation that the report was favorably received by the committee and ask that the county societies give the report serious study.

Dr. Meyer informed the committee that the AMA is advocating repeal of the Health Planning Act (HR 4554). It was moved and carried to recommend to the Board of Directors that ArMA support the AMA's position on the repeal of the Health Planning Act as amended (HR 4554).

Other items discussed were the Arizona Health Care Cost Containment System, long range planning goals, and the past chairman's report. The committee was informed that the State-wide Health Coordinating Council is seeking new members and Dr. Kossuth suggested his name be submitted. It was also recommended that the Executive Committee suggest another physician for the council. It was moved and carried to recommend to the Executive Committee of the Arizona Medical Association that Louis C. Kossuth, M.D., be suggested for appointment to the State-wide Health Coordinating Council. It was further recommended that the Executive Committee suggest one other medical doctor for the council.

## EXECUTIVE COMMITTEE

The Executive Committee met on November 20, 1981.

Specialty society representation in the House of Delegates by the American College of Physicians and the Arizona Society of Internal Medicine was presented to the committee. According to the current bylaws both organizations fall under the same board of medical specialties and ArMA's Board of Directors will decide which group will be represented in the House. The respective organizations are requesting that this requirement be waived and that they both be represented in the House of Delegates. The opinon of legal counsel will be sought in the matter.

The Arizona Health Care Cost Containment System was discussed among the members of the committee, including ArMA's offer to provide a committee to assist in the writing of the rules and regulations.

The committee was advised of the vacancies which will occur in 1982 on the Board of Medical Examiners and it was moved and carried to recommend to the Board of Directors that ArMA submit to the Governor of the State of Arizona for consideration for appointment to the Board of Medical Examiners to fill the 1982 vacancies which would be created with the expiration of the terms of Arthur N. Lindberg, M.D. on March 1 and Phillip Z Saba, M.D. on July 1, the names of John T. Clymer, M.D., Paul B. Jarrett, M.D. Albert Rosenblatt, M.D., and Richard D. Zonis, M.D.

Dr. DeBenedetti advised that guidelines for the Executive Committee Contingency Fund had been established. They are: 1) all requests for financial assistance received by the Association be presented to the committee at its next regularly scheduled meeting; 2) that a spokesman for the group requesting such assistance be requested to attend that meeting and speak to and answer questions regarding the intended project; and, 3) that the committee thereafter have full discretion relating to the granting or refusal of such requests.

It was moved and carried that the Arizona Medical Association accept the proposal submitted by Lawrence-Leiter & Company and proceed through staff to make final arrangements for the company to begin its management evaluation and review process as soon as feasibly possible.

It was moved and carried to approve the request of the Medical Economics Committee that the Arizona Medical Association would provide the $650.00 initial promotion costs for a seminar on real estate investment to be conducted at the Association's office on January

30, 1982, with the understanding that such costs would be borne out of registration fees, should sufficient registrations be received.

It was moved and carried that the Arizona Medical Association recommend the appointment of Louis C. Kossuth, M.D., to the State-wide Health Coordinating Council and, further, that the Coconino County Medical Society be requested to suggest one of their members whom they felt would make a qualified candidate for a like appointment and that such name, if received, be automatically submitted as an additional recommendation.

## *Future Medical Meetings*

The following institutions and organizations have been accredited for their continuing medical education programs by the Liaison Committee on Continuing Medical Education

- Arizona Chapter, American Cancer Society
- Arizona Heart Institute
- Arizona Medical Association
- Arizona State Hospital, Phoenix
- Arizona Thoracic Society/Arizona Lung Association
- Walter O. Boswell Memorial Hospital Sun City
- Camelback Hospital, Phoenix
- Desert Samaritan Hospital, Mesa
- Good Samaritan Hospital, Phoenix
- Health Maintenance Associates, Phoenix
- Maricopa County General Hospital, Phoenix
- Memorial Hospital of Phoenix
- Mesa Lutheran Hospital, Mesa
- Phoenix Baptist Hospital & Health Center
- Phoenix Indian Medical Center
- St. Joseph's Hospital & Medical Center, Phoenix
- St. Luke's Hospital & Medical Center, Phoenix
- St. Mary's Hospital, Tucson
- Scottsdale Memorial Hospital
- Tucson Hospitals Medical Education Program, (THMEP) Tucson
- University of Arizona College of Medicine, Tucson
- Veterans Administration Medical Center, Phoenix
- Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

### FEBRUARY

**International Cataract Surgery Symposium 1982**

February 15-17, 1982. The Alamos Resort, Scottsdale, Arizona. Sponsor: The Eye Foundation. Contact: The Eye Foundation, 421 N. 18th St., Ste 105. Phoenix, Arizona 85006.

# Flexible Sigmoidoscopy

## A course for the primary care physician

Friday and Saturday, February 26-27, 1982
at The Alamos Resort, Scottsdale

The two-day program will include presentations on the role of flexible sigmoidoscopy in cancer surveillance, the diagnosis of colon lesions, patient preparation, examination techniques, and equipment maintenance. Saturday practicum session at St. Luke's Medical Center.

The program has been approved for 8 hours of Category 1 CME credit.

**Sponsored by the Department of Gastroenterology at St. Luke's Medical Center, Phoenix in conjunction with the Arizona Society of Gastrointestinal Endoscopy, and the Phoenix Society of Gastroenterology.**

**For additional information, contact:**

Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center, 525 North 18th Street
Phoenix, Arizona 85006
(602) 251-8402

**Pediatric Update 1982**

February 15-18, 1982. La Posada Resort Hotel, Scottsdale, Arizona. Sponsor: St. Joseph's Hospital and Medical Center, Dept. of Pediatrics. Contact: Ronald A. Christensen, M.D., Department of Pediatrics, St. Joseph's Hospital and Medical Center, 350 West Thomas Road, Phoenix, AZ 85013. Approved for 16 hours of Category 1 Credit.

**Frontiers in Ophthalmology**

February 18-20, 1982. Arizona Biltmore, Phoenix. Sponsor: St. Luke's Hospital Medical Center. Contact: Christine Campbell, Meeting Planner, St. Luke's Hospital Medical Center, 525 N. 18th Street, Phoenix, AZ 85006. Approved for Category 1 credit.

**ECG Interpretation & Arrhythmia Management**

February 19-21, 1982. Scottsdale. Sponsor and Contact: International Medical Education Corp., 64 Inverness Drive East, Englewood, CO 80012. Approved for 16 hours of Category I credit.

**Training In Structural Family Therapy**

February 20-24, 1982. Sponsor: Philadelphia Child Guidance Clinic and Arizona Family Learning & Communications Center. Contact: Arizona Family Learning & Communications Center, Metro Medical Plaza, Ste B403, 3201 W. Peoria Ave., Phoenix, AZ 85029. Approved for Category 1 credit on an hour per hour basis.

**Modulation & Mediation of Cancer By Vitamins**

February 23-26, 1982. U of A Cancer Cer
Tucson. Sponsor: U of A College of Medic
Contact: Mary Humphrey, Cancer Ce
Division U of A Health Sciences Cer
Tucson, AZ 85724. Approved for hour
Category 1 credit.

**Fifth Annual Mid-Winter Symposium in OB/GYN**

February 24-26, 1982. Scottsdale Hi
Hotel. Sponsor: Maricopa County Gen
Hospital and Phoenix OB/GYN Soci
Contact: The Secretary, Phoenix OB/C
Society, 333 East Virginia, Ste 222, Phoe
AZ 85004.

**Eleventh Annual Day of Medicine: Cri Care Medicine**

February 26, 1982. Arizona Biltm
Phoenix. Sponsor: St. Joseph's Hospital
Medical Center and Flinn Foundat
Contact: Darlene Graham, Dept. of Inte
Medicine. St. Joseph's Hospital and Med
Center, P.O. Box 2071, Phoenix, AZ 85
Approved for 6 hours of Category 1 cre

**Anesthesia for the 80's**

February 26-28, 1982. Doubletree
Scottsdale. Sponsor: University of Ariz
College of Medicine, Department
Anesthesiology; and Arizona Society
Anesthesiologists. Contact: Beverly Rich
Arizona Society of Anesthesiologists,
West Bethany Home Road, Phoenix, Ariz
85013. Approved for 15.25 hours of Categ
1 credit.

**xible Sigmoidoscoy**
oruary 26-27, 1982. Alamos Resort, ottsdale. Sponsor: St. Luke's Hospital and dical Center, Department of Gastroenter- gy. Contact: Christine Campbell, Medical eting Planner, St. Luke's Medical Center, North 18th Street, Phoenix, AZ 85006. oroved for 8 hours of Category 1 credit.

**h Annual Taos Lung Disease Symposium**
oruary 26-28, 1982. Taos, New Mexico. onsor: American Thoracic Society, New xico Chapter. Contact: New Mexico apter of the American Thoracic Society, Truman NE, Albuquerque, New Mexico 08.

## MARCH

**ergency Care Conference**
rch 1-3, 1982. Westward Look Resort, cson. Sponsor: U of A College of Medicine. ntact: Office of Continuing Medical ucation and Outreach, U of A Health ences Center, Tucson, AZ 85724. oroved for hour per hour Category 1 dit.

**th Valley of The Sun Dermatology nposium**
rch 3-7, 1982. Del Webb's La Posada sort, Sponsor: Phoenix Dermatologic ciety. Contact: Joseph M Scherzer, M.D., 4 Fourth Street, Scottsdale, AZ 85251.

**anges & Controversies in Pediatrics**
rch 4-7, 1982. Marriott Hotel, Tucson. onsor: U of A College of Medicine. ntact: Office of Continuing Medical ucation and Outreach, U of A Health ences Center, Tucson AZ 85724. oroved for hour per hour Category 1 dit.

**vanced Trauma Life Support Course**
rch 5-7, 1982. Westward Look Resort, cson. Sponsor: U of A College of Medicine. ntact: Office of Continuing Medicine ucation and Outreach, Tucson, AZ 85724. oroved for hour per hour Category 1 dit.

**cupational and Environmental Health in nily Medicine: Clinical and Education ues**
rch 8-9, 1982. Sponsor: College of dicine, Dept. of Family & Community dicine and Az Center of Occupational ety and Health. Contact: Kathleen M. Rest, .A., U of A Health Sciences Center, Az nter of Occupational Safety & Health, cson, AZ. Approved for 15 hours of egory 1 credit.

**stroenterology for Clinicians**
rch 8-10, 1982. Ramada Safari Resort, ottsdale. Sponsor: Good Samaritan spital and Samaritan Health Service/Sun morial Institute. Contact: David C.H. Sun morial Institute, 4129 E. Sandy Mountain ad, Scottsdale, AZ 85253. Approved for hours of Category 1 credit.

**truction Course — Cataract Extraction & aocular Lens Implantation.**
rch 10-12, 1982. Phoenix, Arizona. onsor: The Eye Foundation. Contact: The Foundation, 421 North 18th Street, oenix, AZ 85006.

**Ninth Annual Barrow Neurological Symposium**
March 11-13, 1982. La Posada Inn Resort, Phoenix. Sponsor: St. Joseph's Hospital and Medical Center, Barrow Neurological Institute. Contact: Richard A. Thompson, M.D., 222 West Thomas Road, Phoenix, Arizona 85013. Approved for 15 hours of Category 1 credit.

**Clinical Seminar Series "Endocrinology"**
March 13, 1982. Granda Royale, Phoenix. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education & Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**4th Annual Symposium on current Concepts in the Management of Acute and Chronic Pain**
March 13-14, 1982. Scottsdale Hilton. Sponsor: Maricopa County General Hospital. Contact: Office of CME, MCGH, 2601 E Roosevelt, Phoenix, AZ 85008. Approved for 15 hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider Course**
March 13-15, 1982. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affilate Amer. Heart Assoc., & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona. Provider course approved for 21 hours of Category 1 credit, Recertification course approved for 13 hours.

**1st Symposium on Hematologic Malignancies**
March 14-21, 1982. Keystone Lodge, Colorado. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education & Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Current Perspective III: Pediatrics**
March 17, 1982. Arizona Medical Association Office, Phoenix. Sponsor: Arizona Medical Association. Contact: Arizona Medical Association, 810 W. Bethany Home Road, Phoenix, Arizona 85013. Approved for 3½ hours of Category 1 credit.

**New Horizons in Medicine**
March 18-19, 1982. Good Samaritan Hospital. Sponsor: Good Samaritan Hospital, Div. Continuing Medical Education. Contact: Imre Sandor, M.D., Chairman, CME Committee, Good Samaritan Hospital, 1033 E. McDowell Road, P.O. Box 2989, Phoenix, AZ 85062. Approved for 10 hours of Category 1 credit.

**Injuries of the Hand — Acute Care and Rehabilitation**
March 18-20, 1982. La Posada Resort, Phoenix. Sponsor: American Society for Surgery of the Hand. Contact: ASSH, 2600 South Parker Road, Ste 132, Aurora, Colorado 80014. Approved for 16 hours of Category 1 credit.

**Diagnosis and Therapy of Cardiac Disorders**
March 18-20, 1982. Scottsdale Hilton. Sponsors: ArMA and Postgraduate Medical Fourm, Inc. Contact: Daniel S. Duick, M.D., P.O. Box 32567, Phoenix, AZ 85064. Approved for hour per hour Cagetory 1 credit.

**Third Annual Colloquium The Tactile System, Implication for Social and Emotional Development**
March 19-21, 1982. Caravan Inn, Phoenix. Sponsor: Continuing Education Program of America and The Center for Neurodevelopmental Studies, Inc. Contact: Nancy Henry, The Center of Neurodvelopmental Studies, Inc., 4248 E. Campbell, Phoenix, Arizona 85018.

**8th Annual Urological Seminar**
March 20-21, 1982. Alamos Resort, Scottsdale. Sponsor: Maricopa County General Hospital. Contact: Office of CME, MCGH, 2601 E. Roosevelt, Phoenix, Arizona 85008. Approved for 14 hours of Category 1 credit.

**Instruction Course — Cataract Extraction & Intraocular Lens Implantation**
March 24-26, 1982. Phoenix, Arizona. Sponsor: The Eye Foundation. Contact: Ronald W. Barnet, M.D., 421 N. 18th Street, Ste 105, Phoenix, AZ 85006.

**St. Luke's Focus '82, Thoracic Medicine**
March 29-31, 1982. Los Alamos Hotel, Scottsdale. Sponsor: St. Luke's Hospital. Contact: Christine Campbell, Meeting Planner, St. Luke's Hospital Medical Center, 525 North 18th Street, Phoenix, AZ 85006. Approved for hour per hour Category 1 credit.

## APRIL

**Arizona Chest Symposium**
April 1-3. Doubletree Inn, Tucson, Arizona. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education and Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Malignancy**
April 7. Arizona Health Sciences Center. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Educaiton and Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider Course**
April 14-16, 1982. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., ArMA. Contact: Bevery Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for for 21 hours of Category 1 and Recertification course approved for 13 hours.

**Pan American Cataract & Intraocular Lens Symposium**
April 17-19. Scottsdale Hilton. Sponsor: American Society of Contemporary Ophthalmology and the Sight Foundation. Contact: The Sight Foundation, Inc., 10503 Thunderbird Blvd., Ste 9, Sun City, AZ 85351. Approved for 16 hours of Category 1 credit.

The David C.H. Sun Memorial Institute presents

## Gastroenterology for Clinicians
## "New Approaches to G.I. Problems"

March 8-10, 1982 Ramada Safari Resort Scottsdale, Arizona

Co-sponsored by Good Samaritan Hospital

This symposium highlights the most recent treatments for digestive disorders and liver diseases, with attention to new approaches for patient management problems. Participants are invited to bring their own case studies for discussion, and open dialogue with visiting professors is encouraged.

**Faculty**

**Fenton Schaffner, Chairman**

J. Edward Berk, MD
William Y. Chey, MD
David L. Earnest, MD
William S. Haubrich, MD
Joseph B. Kisner, MD, PhD
James E. Maynard, MD, PhD
Telfer B. Reynolds, MD
Arthur D. Schwabe, MD
Rudolf F. Thoeni, MD
Jerome D. Waye, MD

The Symposium, including two breakfasts and a cocktail reception, is $270.00 for physicians and $110.00 for fellows and residents.

A.M.A. Category I and American Academy of Family Physicians Credit - 16½ Hours

For more information contact:
Mrs. David C.H. Sun
David C.H. Sun Memorial Institute
4129 E. Sandy Mountain Road
Scottsdale, Arizona 85253
(602) 948-1064

**raining in Structural Family Therapy**
pril 17-21, 1982. Sponsor: Philadelphia hild Guidance Clinic and Arizona Family earing & Communicaitons Center. Contact: rizona Family Learning & Communicaitons enter, Metro Medical Plaza, Ste B403, 3201 . Peoria Ave., Phoenix, Arizona 85029. pproved for Category 1 credit on an hour er hour basis.

**h Annual Update**
**rimary Care**
pril 20-24. Arizona Health Sciences Center, ucson. Sponsor: U of A College of Medicine. ontact: Office of Continuing Medical ducation and Outreach, U of A Health ciences Center, Tucson, AZ 85724. pproved for hour per hour Category 1 edit.

**outhwestern Cardiac Symposium**
pril 30-May 1. Hyatt Regency, Phoenix. ponsor: St. Luke's Hospital and Medical enter. Contact: Christine Campbell, edical Meeting Planner, St. Luke's Hospital Medical Center, Phoenix, AZ 85006. pproved for hour per hour Category 1 edit.

## MAY

**dvanced Cardiac Life Support**
**ecertification/Provider Course**
ay 13-15, 1982. Arizona Medical ssociation Office, Phoenix. Sponsor: ACLS, z Affilate of the Amer. Heart Assoc., ArMA. ontact: Beverly Richter, Arizona Medical ssociation, 810 West Bethany Home Road, hoenix, Arizona 85013. Provider course pproved for 21 hours of Category 1 credit nd Recertification approved for 13 hours.

**linical Seminar Series**
**rauma"**
ay 15, 1982. Phoenix. Sponsor: Univeristy Arizona College of Medicine. Contact: ffice of Continuing Medical Education and utreach, U of A Health Sciences Center, ucson, Arizona 85724. Approved for hour er hour Category 1 credit.

## MONTHLY OR WEEKLY

**hrine Medics Meeting**
econd Tuesday of each month, Doctors ospital, 5:45 p.m. J. South Classroom. ponsor: Shrine Medics. Contact: Robert C. riggs, M.D., 5121 N. Central Ave., Phoenix, Z 85012.

**ffice Psychiatry for the**
**rimary Provider**
nd Monday of month, 4811 N. 7th Street, hoenix, AZ. Sponsor: Arizona Health Plan. ontact: T.R. Bittker, M.D., Box 5000, hoenix, AZ 85010. Approved for Category 1 edit.

**ounter Transference Group**
eekly, Thurs. 8-10 p.m. Sponsor: Phoenix sychiatric Council. Contact: James E. ampbell, M.D., 5051 N. 34th St., Phoenix, AZ 018. Approved for 2 hours Category 1 edit.

---

**Bio-Nutritional Labs Presents**
**A One Day Seminar:**

# The Office Treatment of Obesity

Up to date information on its causes, effects and solutions, supplemented by a **Physician's Manual** and a **Patient Workbook.**

**Saturday, March 27, 1982**
The Pointe—7677 N. 16th St., Phoenix, Arizona

## Information Presented By:

| | |
|---|---|
| Paul A. Lessler, M.D. | Steven M. Polin, M.D. |
| Janet Evans, R.D. | Gerald A. Levine, M.D. |

## Topics and Workshops:

- Obesity—Pathophysiology and Associated Problems.
- Nutritional Assessment.
- Use of High Biological Value Protein*
- Behavior Modification
- Office Procedures—Patient Monitoring, Office Records and Economics.
- Patient Health Insurance Coverage.

This seminar is designed to meet the criteria for Category 1, Continuing Medical Education Credit as required for licensing by the Board of Medical Quality Assurance.

*Because of their high therapeutic index, our products are available only to physicians who complete the seminar.

## Seminar Registration

Dr.____________________
Specialty__________ Phone:______
Staff Member________________
Address__________________
City, State__________ Zip______
No. of Physicians______ at $75.00 $______
No. of Staff Members______ at $35.00 $______
Lunch will be provided. Total Encl. $______

If you are unable to attend this seminar, but would like to be notified of the next seminar date, please check here. ☐

Mail check and registration form to:
Bio-Nutritional Labs • 1821 E. 48th Place
Los Angeles, Ca. 90058 (213) 234-4453

**Monthly Meeting of Tucson Radiologists**
Last Tues. of month. Plaza International, Tucson, AZ. Sponsor: U of A Medical Center, Dept. of Radiology. Contact: Irwin M. Freundlich, M.D., U of A Health Sciences Center, Dept. of Radiology, Tucson, AZ 85724. Approved for 2 hours Category 1 credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix: 1st Tues.—Phoenix Indian Hospital, 2nd Tues.—Maricopa County Hospital, 3rd Tues.—Good Samaritan Hospital, 4th Tues.—St. Joseph's Hospital. Sponsor: Maricopa County Hospital (Phoenix Hospital's Affiliated Pediatric Program). Contact: J. Kipp Charlton, M.D., 2601 E. Roosevelt, Phoenix, AZ 85008. Approved for 1 hour per session Category 1 credit.

**Review of Forensic Pathology Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,000, Phoenix, AZ 85064. Contact: Ravi Koopot, M.D.
**Clinical Conference Cardiovascular Medicine**
Third Tues., 5:15 p.m., second floor classroom

## ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 85008. Contact: Arnold L. Kendall, M.D.
**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. Rm., Contact: Dr. Conger & Staff
**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Services Bldg., Conf. Rm.
**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. Conf. Rm.

## BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St Joseph's Hospital & Medical Center. Contact: John R. Green, M.D. Approved for 1 hour Category 1 credit.
**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.
**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and third and 5th, Eighth Floor Conference Room.
**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurology conference room.
**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.
**Neuro-opthalmology Conference.**
Weekly, 7:30 a.m., 8th floor conference Rm.
**Neuropathology of Gross Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.
**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conference Rm.
**Neuropathology or Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conference Rm.
**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference Rm.
**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, ED.D., Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, July, Sept. & Nov.
**Tumor Board**
Last Thursday of the month, 12 Noon, Educ. Center Classroom I & II, May, July, Sept, & Nov.
**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: T. F. Reid, Jr., M.D.
**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for category 1 credit.
**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West End.
**Clinical Conference — Dept. of Medicine**
Weekly Thurs., 12:30-1:30 p.m. Buffet Lunch, Grande Rm.
**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.
**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2

## DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.

**Physicians Continuing Education Progra**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 857
Contact: Eric G. Ramsay, M.D. Approved
Category 1 credit.
**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Se
and December) Contact: R. Grossman, M

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 12
Flagstaff AZ 86002. Contact: B.
Hirschberg, M.D., CME Program Clini
Conference. Approved for category 1 cre
**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.
**Clinical Conferences**
Weekly Tuesdays, 12:30 p.m., Tollefson R
**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf. R
**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf. R

## GOOD SAMARITAN HOSPITAL

1033 East McDowell Rd., Phoenix,
Contact: W. J. Howard, M.D. Approved
category 1 credit.
**Anatomical Path. & Cytology**
Weekly, Mondays 4:00-5:00 p.m., S-4 C
Rm.
**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., West Rm
**Monday Noon Conference**
Weekly, 12:00-1:00 p.m. R-2 Conf. Rm.
**Mortality/Morbidity, Surgery Comm.**
2nd Monday, 11:30-2:00 p.m., West Rm.
**Obstetrical Section Conference**
1st Monday, 12:30-1:30 p.m., West Rm.
**Pulmonary Disease Grand Rounds**
Weekly, 12:00-1:00 p.m., D-5 North
**Family Practice Conference**
Weekly, Tuesday, 12:00-1:00 p.m., Fa
Practice Conf. Rm.
**Pediatric Grand Rounds**
3rd. Tuesday, 7:30-8:30 a.m., Contact: P
Bergeson, M.D.
**Phoenix Plastic Surgery Residency Conference**
Weekly, 5 p.m.-6 p.m., Education Buildi
Contact: Robert McGregor, M.D.
**PM & R Noon Inservice**
2nd & 4th Tuesday, 12 Noon, R-2 Conferen
Rm.
**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., West F
Contact: John A. Bruner, M.D.
**Combined Cardiovascular & Family Pract Conf.**
Ist, 2nd, & 4th Wed., 12:00-1:00 p.m.,
North.
**Learning Disabilities**
Weekly, 10:30-12:30 p.m., R-2 Conf. Rm.
**OBGYN Dept. Review & Statistics**
Weekly, 12:30-3:00 p.m., OBGYN Conf. R

St. Luke's
FOCUS '82
A seminar on thoracic medicine
March 29-31, 1982
The Alamos Resort Hotel
Scottsdale, Arizona

**Course Description:**
*The three-day seminar will focus on the latest developments in the areas of bronchogenic carcinoma and coccidioidomycosis. The role of immunotherapy in bronchogenic carcinoma, CT scanning of solitary pulmonary nodules, and the appropriate use of broncho-plastic procedures with bronchogenic carcinoma will be some of the topics discussed. Cocci related topics to be covered will include the role of immunotherapy in cocci, the current status of cocci vaccines, and cocci in the immuno suppressed patients.*

**Faculty:**
*Bronchogenic Carcinoma—F.G. Pearson, M.D., Toronto, Canada • Richard Matthay, M.D., New Haven, Connecticut • Frederick P. Stitik, M.D., Norfolk, Virginia*
*Coccidioidomycosis—Antonio Catanzaro, M.D., San Diego, California • Demosthenos Pappagianis, M.D., Davis, California • John Galgiani, M.D., Tucson, Arizona*

**Sponsored by St. Luke's Hospital Medical Center**
**Phoenix, Arizona**
*For additional information, write or call:*
*Christine Campbell/Medical Meeting Planner*
*St. Luke's Hospital Medical Center*
*525 North 18th Street/Phoenix, Arizona 85006*
*(602) 251-8402*

**necological Pathology**
ekly, Thursday, 1:00-2:00 p.m., S-4 Conf.
.
**Radiology Conference**
Thursday, 12:00-1:00 p.m., F151,
diology Conf. Rm.
**oenix Ultrasound Soc. Meeting.**
dical Education Building, Contact: Dr.
n Ora
**urology Grand Rounds**
ekly, Thursday, 9:00-10:00 a.m., D-5
rth.
**rgical Grand Rounds**
ekly, 7:00-8:30 a.m., East Room
**mor Treatment Planning Conf.**
d & 4th Thursdays, 12:00-1:00 p.m., F151
diology
**nt Tumor Gyn Conference**
d Friday, 12:30-1:30 p.m., West Rm.
**dical Grand Rounds**
ekly, Friday, 8:00-9:00 a.m., West Rm.
**uropathy Conference**
t Friday, 1:15-2:15 p.m., S-4 Morgue.
**ychiatry Grand Rounds**
ekly Friday, 11:30-1:00 p.m., East Rm.

## KINO COMMUNITY HOSPITAL, (THMEP)

0 E. Ajo Way, Tucson, AZ. 85713. Contact:
C. Ramsay, M.D., Approved for Category
redit.
**dical Conference**
ekly, 12:30 p.m., Contact: Chief Medical
ident.

**Surgical Connference**
Weekly, Mondays, Contact: R. Fischer, M.D.
**Cardiology Conference**
4th Tuesday, 12:30 p.m., Contact: B. Phibbs, M.D.
**Clinical Pharmacology Conference**
5th Tuesday, 12:30 p.m., Contact: M. Katz, Clinical Pharm.
**Neurology Conference**
1st & 3rd. Tuesday, 12:30 p.m., Contact: J. Laguna, M.D.
**Radiology Conference**
2nd Tuesday, 12:30 p.m., Contact: M. Baker, M.D.
**Medical Conference**
Weekly, Thursday, 12:30 p.m., Contact: Chief Medical Resident
**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.m., Contact: J Wurzel, M.D.
**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.
**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chief Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Clinical Conferences**
2nd & 4th Wednesday, 12-1 p.m., Medical Staff Lounge

## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.
**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.
**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.
**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.
**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz Room
**Obstetrical Problem Conference**
Weekly Tuesday, 7:30 a.m., Yavapai Rm.
**Orthopedic Conference**
Weekly Tuesday, 7:30 a.m., Santa Cruz Rm.
**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.
**Urology Discharge Planning Conference**
Weekly, 11:30 a.m., Station 42
**Hand Surgery Conference**
Weekly Wed, a.m., Santa Cruz Rm.
**Neurosurgery Discharge Planning**
Weekly Wed., 1:30 p.m., Station 42.
**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.
**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental Health Annex, Rm. 1346.

**Surgery Conference**
Weekly Wed., 7-8 a.m., Surgical Dept.

**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.

**Cardiology Conference**
Weekly Thurs., 2 p.m., Santa Cruz Rm.

**OB/GYN Resident Conference**
Weekly Thurs., 12 p.m., Yavapai Rm.

**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Rm.

**OB/GYN Surgical Pathology Conf.**
Weekly Friday, 7:30 a.m., Yavapai Rm.

**Orthopedic X-Ray Conference**
Weekly Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: Daniel J. Kuntz, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015. Contact: Leonard M. Lapenson, M.D., Approved for Category 1 credit.

**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.

**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for category 1 credit.

**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.

**Clinical Staff Teaching Conference, Rm. A.**
Wed. Weekly, 8:00 a.m.

**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact: N. Wendell Tood, M.D.

**Family Practice/Emergency Room Teaching Conference**
Thursday Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.

**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.

**Clinical Conferences**
Weekly Tuesday, 12:30 p.m., Kiva Conference Rm.

**Tumor Board Conference**
Weekly Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.

**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge

**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge

**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge

**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge

**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge

**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge

**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge

**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge

**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge

**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lounge

**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lounge

**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lounge

**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.

**Genetics Conference**
Weekly Monday, 12:30 p.m., Pediatric Department.

**Pediatric Rounds**
Weekly Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.

**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.

**ECG Conference**
Weekly Tuesday, 12:30 p.m., Pediatric Department.

**Medical Grand Rounds**
Weekly Wednesday, 8 a.m., 1st Floor Conf. Room.

**Visiting Professor Formal Presentation**
Weekly Thursday, 8 a.m., PIMC

**Visiting Professor Informal Presentation**
Weekly Thursday, 9:30 a.m., 1st floor Conf. Rm.

**Visiting Professor Formal Presentation**
Weekly Thursday, 12:30 p.m., PIMC

**Nephrology Conference**
Weekly Fridays, 12:30 p.m., Pediatric Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact: Wm. Moteforte.

**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact: Kim Sowards.

**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.

**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contact: S. Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ, Conta
Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly Monday, 12:15 p.m., Auditorium

**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditori

**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium

**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium

**Cardiovascular-Thoracic Record Review**
3rd Wednesday, 12:15 p.m., Auditorium

**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips Auditori

**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium

**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium

**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium

**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium

## ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 857
Contact: see below.

**Monthly Specialty Conference — Dept. of Surgery**
1st Monday, 7:30 a.m., Century Rm.
Contact: Med. Staff Office.

**Grand Rounds: Medical Surgical, Fam Practice, Pathology, Radiology**
Weekly Thursday

**Emergency Medicine Lectures**
Weekly Thursday, 8 a.m., Century Room

**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm.

**Cardiology Conference**
Weekly Friday, 8:00-9:00 a.m., Century R
Contact: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716.
Contact: Eric G. Ramsay, M.D. Approved
Category 1 credit.

**Cardiology Conference**
Weekly Monday, except last, 12 No
Contact: M. Maximov, M.D.

**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. Mill
M.D.

**Endocrinology Conference**
Last Monday, 12 p.m., Contact M. Park
M.D.

**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Lohm
M.D.

**Surgical Dept. Conference**
2nd Monday, 12 Noon: Contact: C. Pe
Crowe, Jr., M.D.

**Chest Conference**
1st Tuesday, 12 noon, Contact: Willi
Nevin, M.D.

**Hematology Conference**
4th Tuesday, 12 Noon, Contact: M. Box
M.D.

# The Psyche, The Soma and The Heart

A seminar examining psychological and behavioral aspects of cardiovascular disease and its treatment, including associated depressions, sexual dysfunction and grief reactions.

**Saturday, April 3, 1982 • The Arizona Biltmore Resort, Phoenix**

**Faculty:**

Robert S. Eliot, M.D.
University of Nebraska Medical Center
Omaha, Nebraska

Richard Obershaw, M.S.W.
Grief Center
Burnsville, Minnesota

Cynthia Scalzi, R.N.
U.C.L.A. School of Nursing
Los Angeles, California

Stephen B. Shanfield, M.D.
University of Arizona
Tucson, Arizona

**Sponsored by Behavioral Health Services**
**St. Luke's Medical Center, Phoenix**

**Approved for 7 hours of CME credit (category 1)**

**For additional information, contact:** Christine Campbell
Medical Meeting Planner
St. Luke's Medical Center
525 N. 18th Street
Phoenix, Arizona 85006
(602) 251-8402

**fectious Disease Conference**
d Tuesday, 12 noon, Contact: B. Friedman, .D.

**ephrology Conference**
nd Tuesday, 12 noon, Contact: Dr. Seltzer.

**rthopedic Conference**
st Tuesday, 7:30 p.m., Contact: Jay Katz, .D.

**ediatric Grand Rounds**
st & 3rd Tuesday, 12:30 p.m., Contact: Dr. ghtner.

**europhysiology Conference**
nd Tuesday, 5 p.m., Contact: Robert Foote, .D.

**linical Pathology Conference**
ast Wednesday, 8:00 a.m., Contact: Dr. uchs.

**amily Practice Meeting**
nd Wednesday, 12:30 p.m., Jan., April, July, Oct. Contact: C. Mangelsdorf, M.D.

**edical Conference**
eekly Wednesday, (except last), 8:00 a.m., ontact: M. Fuchs, M.D.

**eurology-Neurosurgery Conference**
eekly Wednesday, 12 noon, Contact: H. W. uschsbaum, M.D.

**ermatology Conference**
t Thursday, 12 noon, Contact: R. Friedman, .D.

**euroradiology Conference**
eekly Thursday, 5:00 p.m., Contact: N. omar, M.D.

**Tumor Conference**
Weekly Thursday, 12 noon, Contact: Cancer Committee.

**Pulmonary/Infectious Disease Case Conference**
2nd Thursday, 7:30 a.m., Contact: William Nevin, M.D.

**G—I Conference**
Weekly Friday, 12 noon, Contact: George Kerrihard, M.D.

**Interhospital Nuclear Medicine Conference**
Weekly Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.

**OB/GYN Conference**
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.

**OB/GYN Pathology Conference**
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

**GI X-Ray Clinical Correlation Conf.**
1st & 3rd Monday, 1 p.m., Rm. C435, Contact: Drs. Sanowski, & Nielsen.

**Medical/Surgical GI Conference**
1st & 3rd. Mondays, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.

**GI Pathology Conf.**
2nd. & 4th Monday, 1 p.m., Path Conf. Rm, Contact: Dr. Sanowski..

**Orthopedic Surgery Conference**
2nd. Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.

**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 2128, Contact: Dr. Mertz & Dr. Lanard.

**Vascular Conference**
2nd Monday, 3 p.m., Rm. 3134, Contact: Dr. Cintora

**GI Grand Rounds**
Weekly Tuesday, 1 p.m., Contact: Drs. Sanowski, Kozarek, after GI Grand Rounds Rm T-5.

**Housestaff Pulmonary Disease Teaching Conf.**
Weekly Wed., 3-4 p.m., Rm. 4115, Contact: Dr. Rohwedder, Ext. 388.

**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habibzedeh

**Medical Surgical Chest Conference**
1st & 3rd Thursday, Contact: Dr. Rohwedder or Dr. Gill.

**GI Consultant Rounds**
1st Thursday, 1:30 p.m., Rm. T-5.

**Medical Service Grand Rounds**
Weekly Friday, 11 a.m., Rm. T-5, Contact: Dr. Zeller

**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

## PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.

**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

## TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER

### (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.

**Medical Surgical Chest Conference**
Weekly Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Conf.**
Weekly Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER

### (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for category 1 credit.

**Radiology Conference**
1st Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Tuesday, 6:30 p.m.

**Pathology Conference**
4th Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for category 1 credit.

**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.

**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly Thursday, 4-5 p.m., Room 5403

**Anesthesiology Case Discussion**
Weekly Wed., 7:00 a.m., AHSC, Dining Rm. C&D.

**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.

**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center

**Cardiac Catheterization Conference**
Weekly Friday, 4:00 p.m., Contact: Dr. Temkin.

**Cardiology Research Conference**
Weekly Tuesday, 7:30 a.m., Contact: Dr. Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505. Contact: Jerry Goldston, M.D., Department of Surgery.

**Dermatology Rounds**
Weekly Wed., 11:30 a.m., Contact: Dr. Lynch

**Endocrinology Seminar**
Weekly Thursday, 12-1 p.m., Contact: Dr. Johnson

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contac: Dr. Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter

**Head & Neck Tumor Management Conference**
Weekly Wed., 4:00 p.m., Contact: Dr. Manning

**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.

**Medical Grand Rounds**
Weekly Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.

**Neuromuscular Disease Conference**
Weekly Friday, 11:30 a.m., Contact: Dr. Stern

**Neuropathology Review Conference**
Thursdays, 8:30 a.m., Rm. 5120, UAHSC.

**Neuroradiology Conference**
Weekly Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson

**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.

**Neuropathology Case Review**
Weekly Friday, 8:30 a.m., AHSC, Contact: Dr. P. Johnson.

**Neurosciences Seminar**
Weekly Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford

**Nuclear Medicine**
Weekly Thursday, 7:30 a.m., AHSC Radiology Conference Rm.

**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler

**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.

**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.

**Pathology Seminar**
Weekly, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley

**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.

**Pediatric Grand Rounds**
2nd & 4th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.

**Pediatric Problem Patient Conference**
Weekly Wed., 8:00 a.m., Contact Dr. Walson

**Pediatric Research Forum**
Weekly Tuesday, 7:30 a.m., Contact: Dr. James Jones

**Pediatric Specialty Conference**
Weekly Friday, 8:00 a.m., Contact: Dr. Philip Walson.

**Psychiatric Grand Rounds**
Weekly Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital

**Pulmonary Rounds**
Weekly Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.

**Chest Radiology**
Weekly Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich

**Gastrointestinal Radiology**
Weekly Tuesday, 5-6 p.m., AHSC, Contact: Radiology Dept.

**Radiology-Rheumatology Conference**
Weekly Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.

**Uroradiology (Genitourinary Radiology)**
2nd & 4th Mondays, 7:30- 8:30 a.m., AHSC, Contact: Dept. of Radiology

**Renal Pathology Conference**
1st & 3rd Thurs., 11:30 a.m., Contact: Dr. Nagle.

**Residents Noon Conference**
Weekly Tuesday & Thursday, 12:00 noon, AHSC, Contact: Dr. A. Greensher.

**Resident's Conference**
Wednesday, weekly 5-6 p.m., Diag. Radiology Conf. Rm.

**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.

**Surgical Morbidity & Mortality Conference**
Weekly Wed., 8:00 a.m., Contact: Dr. Wangensteen.

**Vascular Surgery Conference**
Weekly Tuesdays, 5-6 p.m., AHSC Dining Room E.

**Joint Thyroid Conference**
1st & 3rd Tuesdays., 1-2:00 p.m., AHSC, Rm. 6505, Contact: S. C. Werner, M.D.

**Trauma Conference**
Monday,4:00 p.m. UAHSC, Rm. 4410, Contact: Dr. Peltier.

**Toxicology Conference**
Weekly Tuesday, 8:00 a.m., Contact: Dr. Keith Likes

**Tucson Ultrasonography Group**
Weekly Wed., 4:30 p.m., AHSC, Contact: Dr. I. Freundlich.

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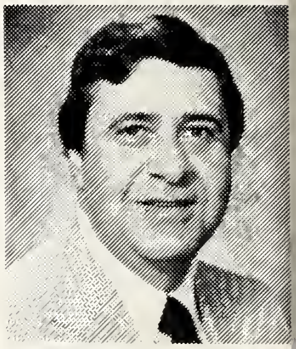

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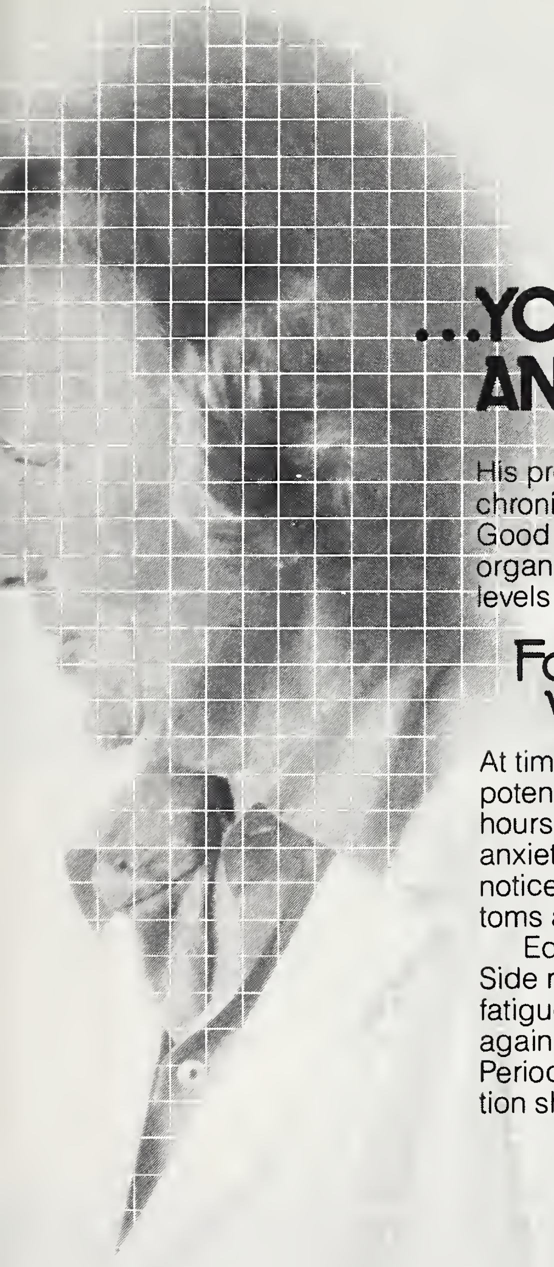

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**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.
**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures Advise against simultaneous ingestion of alcohol and other CNS depressants Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months After extended therapy gradually taper dosage Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation
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**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy
**Dosage:** Individualize for maximum beneficial effect. *Adults* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b i d to q i d ; alcoholism, 10 mg t i.d or q i.d in first 24 hours, then 5 mg t i.d or q i d as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t i d. or q i d , adjunctively in convulsive disorders, 2 to 10 mg b i d to q i d *Geriatric or debilitated patients* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated (See Precautions ) *Children:* 1 to 2½ mg t i.d. or q i.d initially, increasing as needed and tolerated (not for use under 6 months).
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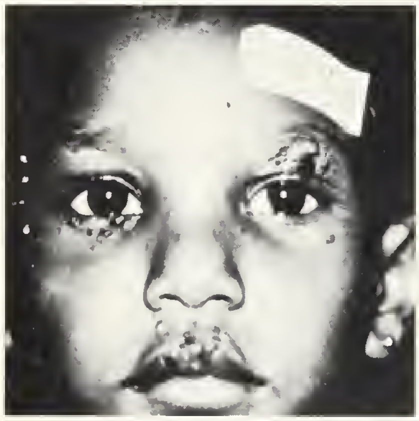

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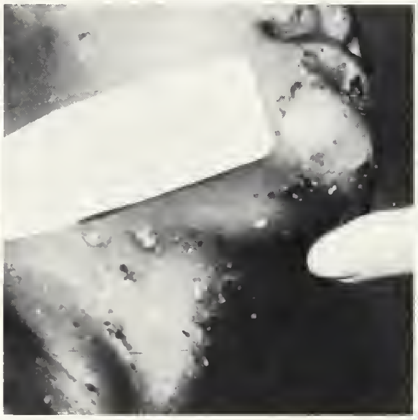
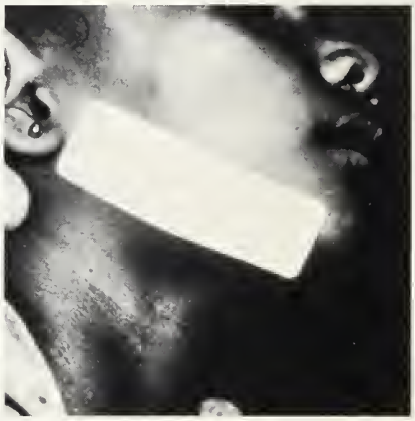


After one week of penicillin V-K therapy



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Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed

**IMPORTANT NOTE**

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

**CONTRAINDICATIONS:**

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication

## RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

| | | Given Tegopen® *(cloxacillin sodium)* | Given *penicillin V-K* |
|---|---|---|---|
| *Staphylococcus aureus* | (78 patients) | 39 | 39 |
| Returned to clinic at one week | | 29† | 38† |
| Treatment failure at one week | | 0 | 18 (47.4%) |
| *Staphylococcus aureus* and *Streptococcus pyogenes* | (9 patients) | 4 | 5 |
| Returned to clinic at one week | | 4 | 5 |
| Treatment failure at one week | | 0 | 2 (40%) |
| **No initial bacterial growth** | (14 patients) | 9 | 5 |
| All 14 healed, regardless of which antibiotic was administered. | | | |
| **Beta-hemolytic *Streptococcus*** | (1 patient) | 0 | 1 |
| TOTALS: | **102 patients** | **52 patients** | **50 patients** |

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

## STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus,* 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes,* and 1% beta-hemolytic *Streptococcus*.‡
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

‡The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

# TEGOPEN®
## (cloxacillin sodium)
## –effective therapy for staph infections of the skin and skin structures

**WARNING:**

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

**PRECAUTIONS:**

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

**ADVERSE REACTIONS:**

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

**USUAL DOSAGE:**

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

*N.B.:* INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

**SUPPLIED:**

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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Syracuse, New York 13201

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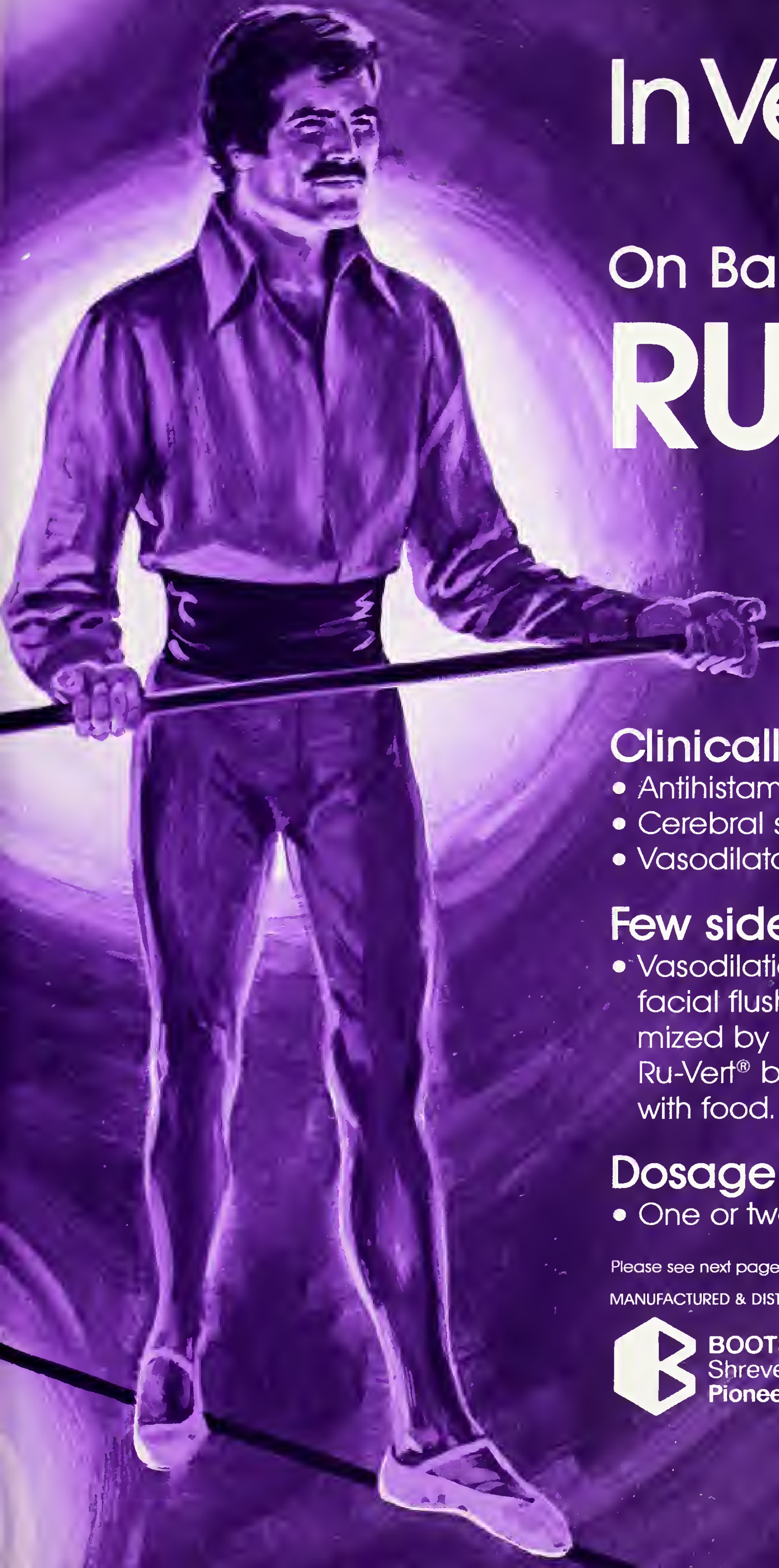

# In Vertigo

## On Balance…

# RU-VERT®

Each Tablet Contains:

| | |
|---|---|
| Pentylenetetrazol | 25.0 mg |
| Pheniramine maleate | 12.5 mg |
| Nicotinic acid | 50.0 mg |

## Clinically proven actions

- Antihistaminic
- Cerebral stimulant
- Vasodilator

## Few side effects

- Vasodilation occasionally causes facial flushing which can be minimized by recommending that Ru-Vert® be taken following meals or with food.

## Dosage

- One or two tablets three times a day

Please see next page for a summary of prescribing information

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Shreveport, Louisiana 71106
**Pioneers in medicine for the family**

# In Vertigo
On Balance...
# RU-VERT®

See following prescribing information.

**DESCRIPTION:** Each tablet contains the following active ingredients:

| | |
|---|---|
| Pentylenetetrazol | 25.0 mg |
| Pheniramine maleate | 12.5 mg |
| Nicotinic acid | 50.0 mg |

**INDICATIONS:** Ru-Vert is indicated as an adjunct therapy in the symptomatic treatment of acute or chronic vertigo.

**CONTRAINDICATIONS:** Convulsive disorders or known history of sensitivity to any of the listed active ingredients. Because of the vasodilating action of nicotinic acid, Ru-Vert should not be used in patients with hypotension.

**WARNINGS:** The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

**PRECAUTIONS:** Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of Ru-Vert who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

Pheniramine maleate, like other antihistamines, may produce sedative side effects in certain patients.

Transient vasodilatation due to rapid absorption of nicotinic acid may produce facial flushing and a sensation of warmth. These effects may be ameliorated by recommending that Ru-Vert be taken following meals or with food.

**ADVERSE REACTIONS:** Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

**DRUG ABUSE:** Drug dependence has not been reported with Ru-Vert.

**OVERDOSAGE:** Signs and symptoms of acute overdose may be due primarily from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

**DOSAGE AND ADMINISTRATION:** The recommended dosage of Ru-Vert for vertigo or motion sickness is 1 or 2 tablets three times a day with meals or light snacks.

This drug is not for use in children under 12 years of age.

**HOW SUPPLIED:**

| | |
|---|---|
| Bottles of 100 tablets | **NDC** 0524-0060-01 |
| Bottles of 300 tablets | **NDC** 0524-0060-03 |

Federal law prohibits dispensing without prescription.

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THE FIRST ORAL
CALCIUM CHANNEL
BLOCKER
FOR THE
MANAGEMENT OF
ANGINA PECTORIS

**NEW**

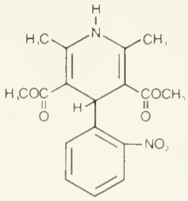
**PROCARDIA®**

(NIFEDIPINE) *Capsules 10 mg*

**Please see PROCARDIA® *prescribing information on next page.***

# PROCARDIA® CAPSULES                For Oral Use
## nifedipine

**DESCRIPTION:** PROCARDIA (nifedipine) is an antianginal drug belonging to a new class of pharmacological agents, the calcium channel blockers. Nifedipine is 3,5-pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, dimethyl ester, $C_{17}H_{18}N_2O_6$, and has the structural formula:



Nifedipine is a yellow crystalline substance, practically insoluble in water but soluble in ethanol. It has a molecular weight of 346.3. PROCARDIA CAPSULES are formulated as soft gelatin capsules for oral administration each containing 10 mg nifedipine.

**CLINICAL PHARMACOLOGY:** PROCARDIA (nifedipine) is a calcium ion influx inhibitor (slow channel blocker or calcium ion antagonist) and inhibits the transmembrane influx of calcium ions into cardiac muscle and smooth muscle. The contractile processes of cardiac muscle and vascular smooth muscle are dependent upon the movement of extracellular calcium ions into these cells through specific ion channels. PROCARDIA selectively inhibits calcium ion influx across the cell membrane of cardiac muscle and vascular smooth muscle without changing serum calcium concentrations.

**Mechanism of Action:** The precise means by which this inhibition relieves angina has not been fully determined, but includes at least the following two mechanisms:

**1) Relaxation and prevention of coronary artery spasm:** PROCARDIA dilates the main coronary arteries and coronary arterioles, both in normal and ischemic regions, and is a potent inhibitor of coronary artery spasm, whether spontaneous or ergonovine-induced. This property increases myocardial oxygen delivery in patients with coronary artery spasm, and is responsible for the effectiveness of PROCARDIA in vasospastic (Prinzmetal's or variant) angina. Whether this effect plays any role in classical angina is not clear, but studies of exercise tolerance have not shown an increase in the maximum exercise rate-pressure product, a widely accepted measure of oxygen utilization. This suggests that, in general, relief of spasm or dilation of coronary arteries is not an important factor in classical angina.

**2) Reduction of oxygen utilization:** PROCARDIA regularly reduces arterial pressure at rest and at a given level of exercise by dilating peripheral arterioles and reducing the total peripheral resistance (afterload) against which the heart works. This unloading of the heart reduces myocardial energy consumption and oxygen requirements and probably accounts for the effectiveness of PROCARDIA in chronic stable angina.

**Pharmacokinetics and Metabolism:** PROCARDIA is rapidly and fully absorbed after oral administration. The drug is detectable in serum 10 minutes after oral administration, and peak blood levels occur in approximately 30 minutes. It is highly bound by serum proteins. PROCARDIA is extensively converted to inactive metabolites and approximately 80% of PROCARDIA and metabolites are eliminated via the kidneys. The half-life of nifedipine in plasma is approximately two hours. There is no information on the effects of renal or hepatic impairment on excretion or metabolism of PROCARDIA.

**Hemodynamics:** Like other slow channel blockers, PROCARDIA exerts a negative inotropic effect on isolated myocardial tissue. This is rarely, if ever, seen in intact animals or man, probably because of reflex responses to its vasodilating effects. In man, PROCARDIA causes decreased peripheral vascular resistance and a fall in systolic and diastolic pressure, usually modest (5–10 mm Hg systolic), but sometimes larger. There is usually a small increase in heart rate, a reflex response to vasodilation. Measurements of cardiac function in patients with normal ventricular function have generally found a small increase in cardiac index without major effects on ejection fraction, left ventricular end diastolic pressure (LVEDP) or volume (LVEDV). In patients with impaired ventricular function, most acute studies have shown some increase in ejection fraction and reduction in left ventricular filling pressure.

**Electrophysiologic Effects:** Although, like other members of its class, PROCARDIA decreases sinoatrial node function and atrioventricular conduction in isolated myocardial preparations, such effects have not been seen in studies in intact animals or in man. In formal electrophysiologic studies, predominantly in patients with normal conduction systems, PROCARDIA has had no tendency to prolong atrioventricular conduction, prolong sinus node recovery time, or slow sinus rate.

**INDICATIONS AND USAGE: I. Vasospastic Angina:** PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

**II. Chronic Stable Angina (Classical Effort-Associated Angina):** PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta-blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

**CONTRAINDICATIONS:** Known hypersensitivity reaction to PROCARDIA.

**WARNINGS: Excessive Hypotension:** Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

**Increased Angina/Beta Blocker Withdrawal:** Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

**Congestive Heart Failure:** Rarely, patients usually receiving a beta blocker have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event, as the unloading effect of PROCARDIA would be expected to be of less benefit to these patients, owing to their fixed impedance to flow across the aortic valve.

**PRECAUTIONS:** General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. See Warnings.

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, c should be taken to differentiate this peripheral edema from the effects of increasing left ventric dysfunction.

Drug interactions: Beta-adrenergic blocking agents: See Indications and Warnings. Experien in over 1400 patients in a non-comparative clinical trial has shown that concomitant administrat of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been oc sional literature reports suggesting that the combination may increase the likelihood of congest heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there ha been no controlled studies to evaluate the antianginal effectiveness of this combination.

Carcinogenesis, mutagenesis, impairment of fertility: Nifedipine was administered orally to r for two years and was not shown to be carcinogenic. When given to rats prior to mati nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommend human dose. *In vivo* mutagenicity studies were negative.

Pregnancy: Pregnancy category C. Nifedipine has been shown to be teratogenic in rats wh given in doses 30 times the maximum recommended human dose. Nifedipine was embryotc (increased fetal resorptions, decreased fetal weight, increased stunted forms, increased fe deaths, decreased neonatal survival) in rats, mice and rabbits at doses of from 3 to 10 times maximum recommended human dose. In pregnant monkeys, doses 2/3 and twice the maxim recommended human dose resulted in small placentas and underdeveloped chorionic villi. rats, doses three times the maximum human dose and higher caused prolongation of pregnar There are no adequate and well-controlled studies in pregnant women. PROCARDIA should used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

**ADVERSE REACTIONS:** In multiple-dose U.S. and foreign-controlled studies in which adve reactions were reported spontaneously, adverse effects were frequent but generally not seri and rarely required discontinuation of therapy or dosage adjustment. Most were expected con quences of the vasodilator effects of PROCARDIA.

| Adverse Effect | PROCARDIA (%) (N = 226) | Placebo (%) (N = 2 |
|---|---|---|
| Dizziness, light-headedness, giddiness | 27 | 15 |
| Flushing, heat sensation | 25 | 8 |
| Headache | 23 | 20 |
| Weakness | 12 | 10 |
| Nausea, heartburn | 11 | 8 |
| Muscle cramps, tremor | 8 | 3 |
| Peripheral edema | 7 | 1 |
| Nervousness, mood changes | 7 | 4 |
| Palpitation | 7 | 5 |
| Dyspnea, cough, wheezing | 6 | 3 |
| Nasal congestion, sore throat | 6 | 8 |

There is also a large uncontrolled experience in over 2100 patients in the United States. Mos the patients had vasospastic or resistant angina pectoris, and about half had concomitant tre ment with beta-adrenergic blocking agents. The most common adverse events were the sa ones seen in the controlled trials, with dizziness or light-headedness, peripheral edema, naus weakness, headache and flushing each occurring in about 10% of patients, transient hypotens in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not re with reduction in the dose of PROCARDIA or concomitant antianginal medication. Very rarely, troduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly d to associated hypotension.

Several of these side effects appear to be dose related. Peripheral edema occurred in ab one in 25 patients at doses less than 60 mg per day and in about one patient in eight at 120 mg day or more. Transient hypotension, generally of mild to moderate severity and seldom requir discontinuation of therapy, occurred in one of 50 patients at less than 60 mg per day and in one 20 patients at 120 mg per day or more.

In addition, 2% or fewer of patients reported the following: **Respiratory:** Nasal and ch congestion, shortness of breath. **Gastrointestinal:** Diarrhea, constipation, cramps, flatulen **Musculoskeletal:** Inflammation, joint stiffness, muscle cramps. **CNS:** Shakiness, nervousne jitteriness, sleep disturbances, blurred vision, difficulties in balance. **Other:** Dermatitis, prurit urticaria, fever, sweating, chills, sexual difficulties.

In addition, more serious adverse events were observed, not readily distinguishable from t natural history of the disease in these patients. It remains possible, however, that some or many these events were drug related. Myocardial infarction occurred in about 4% of patients a congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conducti disturbances each occurred in fewer than 0.5% of patients.

In a subgroup of over 1000 patients receiving PROCARDIA with concomitant beta blocker th apy, the pattern and incidence of adverse experiences was not different from that of the ent group of PROCARDIA treated patients (see **Precautions**).

In a subgroup of patients with a diagnosis of congestive heart failure as well as angina, diz ness or light-headedness, peripheral edema, headache or flushing each occurred in one in ei patients. Hypotension occurred in about one in 20 patients. Syncope occurred in approximat one patient in 250. Myocardial infarction or symptoms of congestive heart failure each occurr in about one patient in 15. Atrial or ventricular dysrhythmias each occurred in about one pati in 150.

Laboratory tests: Rare, mild to moderate, transient elevations of enzymes such as alkali phosphatase, CK, LDH, SGOT, and SGPT have been noted, and a single incident of significan elevated transaminases and alkaline phosphatase was seen in a patient with a history of g bladder disease after about eleven months of nifedipine therapy. The relationship PROCARDIA therapy is uncertain. These laboratory abnormalities have already been associat with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been report twice in the extensive world literature.

**OVERDOSAGE:** Although there is no well documented experience with PROCARDIA overd age, available data suggest that gross overdosage could result in excessive peripheral vasodi tion with subsequent marked and probably prolonged systemic hypotension. Clinically significa hypotension due to PROCARDIA overdosage calls for active cardiovascular support includi monitoring of cardiac and respiratory function, elevation of extremities, and attention to circulati fluid volume and urine output. A vasoconstrictor (such as norepinephrine) may be helpful in storing vascular tone and blood pressure, provided that there is no contraindication to its us Clearance of PROCARDIA would be expected to be prolonged in patients with impaired liv function. Since PROCARDIA is highly protein-bound, dialysis is not likely to be of benefit.

**DOSAGE AND ADMINISTRATION: The dosage of PROCARDIA needed to suppress a gina and that can be tolerated by the patient must be established by titration. Excessi doses can result in hypotension.**

The starting dose is one 10 mg capsule, swallowed whole, 3 times/day. The usual effective do range is 10–20 mg three times daily. Some patients, especially those with evidence of corona artery spasm, respond only to higher doses, more frequent administration, or both. In such p tients, doses of 20–30 mg three or four times daily may be effective. Doses above 120 mg da are rarely necessary. More than 180 mg per day is not recommended.

In most cases, PROCARDIA titration should proceed over a 7–14 day period so that the phy cian can assess the response to each dose level and monitor the blood pressure before procee ing to higher doses.

If symptoms so warrant, titration may proceed more rapidly provided that the patient is a sessed frequently. Based on the patient's physical activity level, attack frequency, and sublingu nitroglycerin consumption, the dose of PROCARDIA may be increased from 10 mg t.i.d. to 20 t.i.d. and then to 30 mg t.i.d. over a three-day period.

In hospitalized patients under close observation, the dose may be increased in 10 mg incr ments over four to six-hour periods as required to control pain and arrhythmias due to ischemia. single dose should rarely exceed 30 mg.

No "rebound effect" has been observed upon discontinuation of PROCARDIA. However, if d continuation of PROCARDIA is necessary, sound clinical practice suggests that the dosa should be decreased gradually with close physician supervision.

**Co-Administration with Other Antianginal Drugs:** Sublingual nitroglycerin may be taken required for the control of acute manifestations of angina, particularly during PROCARDIA tit tion. See **Precautions, Drug Interactions** for information on co-administration of PROCARD with beta blockers or long-acting nitrates.

**HOW SUPPLIED:** Each orange, soft gelatin PROCARDIA Capsule contains 10 mg of nifedipin PROCARDIA Capsules are supplied in amber glass bottles of 100 capsules (NDC 0069-2600-6

The capsules should be protected from light and moisture and stored at controlled roo temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

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[1] Medical Accounting System was created by Cimarron Corp.

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ARIZONA MEDICAL ASSOCIATION

# ANNUAL 91ST MEETING

## MAY 20-22, 1982 ★ SAFARI RESORT ★ SCOTTSDALE, ARIZON

## Arizona Medical Association

### BUSINESS SESSIONS

**Friday, May 21**

| | |
|---|---|
| 6:00 a.m. | Executive Committee Breakfast Meeting |
| 8:00 a.m. | Board of Directors' Meeting |
| 10:00 a.m. | House of Delegates' Meeting |
| 12 Noon | Past Presidents' Luncheon |
| 2:00 p.m. | Amendments Reference Committee Meeting |
| 2:00 p.m. | Resolutions Reference Committee Meeting |

**Saturday, May 22**

| | |
|---|---|
| 6:30 a.m. | Maricopa County Medical Society Caucus |
| 6:30 a.m. | Pima County Medical Society Caucus |
| 8:00 a.m. | House of Delegates' Meeting |
| 12 Noon | Board of Directors' Luncheon Meeting |

## ArMA Auxiliary

### BUSINESS SESSIONS

**Thursday, May 20**

| | |
|---|---|
| 12 Noon | Past Presidents' Luncheon |
| 1:30 p.m. | Executive Committee Meeti |
| 2:30 p.m. | Annual Meeting |

**Friday, May 21**

| | |
|---|---|
| 10:00 a.m. | Post-Convention Board Meeting |
| 11:00 a.m. | Committee Meetings |
| 11:30 a.m. | Luncheon/Installation |

## SOCIAL EVENTS — Arizona Medical Association and Auxiliary

**Thursday, May 20**

| | |
|---|---|
| 7:00 p.m. | Reception and |
| 8:00 p.m. | Steak Fry |

**Friday, May 21**

| | |
|---|---|
| 7:00 p.m. | President's Reception |
| 8:00 p.m. | President's Banquet |

## SPECIAL EVENTS — Arizona Medical Association and Auxiliary

**Friday, May 21 TWO CONCURRENT SESSIONS 2:00-4:30 p.m.**

**TAKE TIME TO REALLY GET IT ON** — A Time Management Seminar, Tom Fullmer, Ph.D. Dr. Fullmer i Corporation Director, Productivity, Research and Public Affairs for the Tanner Companies. Tips o how to control your schedule, not be controlled by it.

**WHAT ARE SOUND INVESTMENTS TODAY?** — A look at the financial opportunities available t medical families presented by an attorney, a certified public accountant, and a panel of auxilian experienced in real estate, business, stocks, bonds and tax shelters. Theresa Mao, Moderator.

**The business of organized medicine is YOUR business.**
**Attend the reference committee meetings at 2:00 PM, Friday,**
**May 21, and let your delegates know your views.**

# irth Defects:
## omputer Access to Information

imes D. Cadien, Ph.D.
ederick Hecht, M.D.

itor:
ederick Hecht, M.D.

**ostract**

The March of Dimes Birth Defects Foundation has tablished a computerized Birth Defects Information rvice (BDIS). This service consists of three parts: the formation Retrieval, the Diagnostic Assist Facility and e Unknown Diagnosis Facilities. Together these can l in obtaining information about specific birth defects, riving at a differential diagnosis and determining nether an unknown syndrome has been observed. ith a grant from the Grand Canyon Saguaro Chapter the March of Dimes Birth Defects Foundation, access this system has been established at The Genetics nter in Tempe. The service is free to all physicians in izona.

**umbers**

Having a child is running a risk. About three percent all children are born with major malformations and out three percent of children are mentally retarded. nce there is overlap—some children with alformations are retarded—the overall risk for these oblems in children is about five percent (1 in 20).

In Arizona there are now more than 40,000 births per ar. This means that more than 2,000 children are born arly with malformations and/or mental retardation in izona.

**ospitalized Children**

Hospital services for children have a high proportion admissions for malformations and/or retardation. ta based on an analysis of a children's hospital are esented in the Table.

Genetic diseases leading to hospitalization include chromosome abnormalities (e.g., Down's syndrome), autosomal dominant (e.g., neurofibromatosis), autosomal recessive (e.g., cystic fibrosis and PKU) and X-linked (e.g., hemophilia and muscular dystrophy) disorders.

Table
Disease Distribution in Pediatric Hospital Patients

| | Type of Disease | Percent of Patients |
|---|---|---|
| I. | Genetic and chromosome disorders | 4.1% |
| II. | Multifactorial/polygenic disorders | 20.5% |
| III. | Developmental Disorders | 13.8% |
| IV. | Familial Disorders | 11.2% |
| V. | Nongenetic Disorders | 50.4% |

Based on data from Hall JG, Powers EK, McIlvaine RT, Ean VH: The frequency and financial burden of genetic disease in a pediatric hospital. *Am J. Med Genet* 1978;1:417-436.

Multifactorial/polygenic disorders leading to hospitalization of children include cleft lip and palate, meningomyelocele (spina bifida), congenital dislocation of the hips and clubfeet. Diabetes is another example.

Developmental disorders include malformations of unknown etiology such as tracheoesophageal fistula, imperforate anus, genitourinary tract anomalies and many limb malformations.

Familial disorders in this table are diseases with a genetic predisposition such as glomerulonephritis, collagen diseases and certain orthopedic conditions.

The sum total of genetic and related diseases is responsible for about 50% of all diseases in hospitalized children. Because there is an increasing trend to treat children on an ambulatory basis whenever possible, the proportion of children's visits to doctors' offices for genetic diseases is considerable. Our estimate, which is based upon analyzing pediatricians' practices, is 10% to 20%.

**Growth of Knowledge**

The numerology of birth defects runs into the thousands. No single book encompasses the field of birth defects, and no physician can keep all of this information on birth defects in mind. This has led to the development of a computer system dedicated to birth defects.

**History**

The March of Dimes Birth Defects Foundation published the *Birth Defects Compendium* in 1970. The *Compendium* contained information on 842 birth defects. The rationale for the *Compendium* was that up-to-date information on birth defects was scattered in specialized books and journals, was hard to come by in one place, and could not be obtained quickly.

The *Compendium* proved useful. A second edition was issued by the Foundation in 1979. It contained information on 1004 birth defects.

A problem with books such as the *Compendium* is that they take considerable time to assemble and print. By the time such books are published they are already obsolete. Another problem is that books, though wonderful

---

om: The Genetic Center and Birth Defects Information Center of uthwest Biomedical Research Institute, 123 East University Drive, mpe, Arizona 85281. Supported by a grant in Arizona from the and Canyon Saguaro Chapter of the March of Dimes Birth Defects undation.

creations, are final. The reader cannot interact with a book. One cannot ask questions and receive prompt replies.

The decision was made by the Foundation to computerize. Specifically, the Foundation has developed the Birth Defects Information System (BDIS).

### Birth Defects Information System (BDIS)

The computer for the BDIS is located in Massachusetts Institute of Technology and Tufts-New England Medical Center. In 1981, Arizona, through a grant from the Foundation to the Genetics Center in Tempe, was connected to the BDIS.

The computer is an IBM-370. Information for the computer is contributed from numerous countries around the world. Initial editing is done by associate editors, including the staff of the Genetics Center, and the final editing of the information is by Tuft-New England Medical Center. Computer terminals provide access via a telecommunications network. One of the terminals is in Tempe at the Genetics Center.

The total system is planned to consist of three parts: the Information Retrieval Facility, the Diagnostic Assist Facility, and the Unknown Diagnosis Facility. The Information Retrieval Facility is now operational. The Diagnostic Assist Facility is still in the testing stage and is expected to be fully operational by the summer of 1982. The Unknown Diagnosis Facility is under development.

### Information Retrieval Facility

This facility corresponds to the *Compendium*. During the nine year period of 1970 to 1979 the articles in the *Compendium* were updated and new articles were added. This process is now proceeding with increasing speed, with 241 articles being updated by the computer from 1979 to 1980.

The information for each article is presented in a uniform format. The format includes:

1. Names of the disorder including all synonyms
2. Minimal diagnostic criteria
3. Clinical findings
4. Complications
5. Etiology
6. Pathogenesis
7. Related findings including: sex ratio of affected persons, risk of occurrence, risk of recurrence, age of detectibility and prevalence
8. Treatment
9. Prognosis
10. Detection of carriers, if feasible
11. Special considerations

A bibliography follows each article to give direct access to the original literature.

### Diagnostic Assist Facility

Estimates vary on the proportion of birth defects in which a satisfactory diagnosis can now be made. An optimistic estimate is that half (50%) of all birth defects can now be diagnosed. The Diagnostic Assist Facility therefore aims at improving the efficiency and accuracy of diagnosis.

The Diagnostic Assist Facility helps the physician t make a diagnosis. It does not provide a single diagnosis but it assists, in the sense a colleague might, i developing a differential diagnosis.

To do this, one enters all of the signs and symptom into the computer terminal. The system assimilates thi information and begins to ask questions about th patient. Taking into account the answers, a list of the to ten diagnoses is provided in order of probability. Th process continues—inputting information and the answering the computer's questions—until one i satisfied with the differential diagnosis. Then one ca obtain a printout on each of the leading candidates in th differential diagnosis from the Information Retriev Facility.

This procedure can continue as you study a patien You can end a session with the computer, if certai information is not yet available, and then resume th process later exactly where one stopped.

The Diagnostic Assist Facility is not yet certified fo routine clinical use. Currently, The Genetics Center i participating in testing the system. It is anticipated th Diagnostic Assist Facility will be functioning soon.

### The Unknown Diagnosis Facility

An unmet need is to recognize unknown syndromes At present, a physician has to go through reams o literature in an attempt to recognize that the patient ha a new syndrome just described in Lichtenstein.

The Unknown Diagnosis Facility is unde development to exchange information and to identif new syndromes. The Facility will compare unknow syndromes and then, once a match is made, th particular syndrome will move up into the Diagnost Assist Facility and the Information Retrieval Facility. I this way, information on patients will be matched an new syndromes will be identified.

The Unknown Diagnosis Facility is the third and fin part of BDIS. Its development will require time. T accelerate matters, information about patients is no being entered into the computer. An example in Arizon concerns a young boy with an unusual pattern o malformations and mental retardation seen by D William Austin in Flagstaff and by one of us, (F.H.), a the Genetics Center. The information on this boy ha been entered into the computer and attempts to match with data from other patients are underway.

### Birth Defects Information in Arizona

At no charge, physicians and other healt professionals in Arizona may utilize the Birth Defec Information Service. Write The Genetics Center, 12 East University Drive, Tempe, Arizona 85281, o telephone F. Hecht, M.D. or A. Grix, M.D., at 894-110

### REFERENCES

1. Bergsma D (ed): *Birth Defects Compendium, 2nd Edition*. The Natio Foundation—March of Dimes, Alan R. Liss, Inc., New York, 19
2. Smith DW: *Recognizable Patterns of Human Malformation. Gen Embryologic and Clinical Aspects. 2nd Edition.* W.B. Saunders C Philadelphia, 1976.

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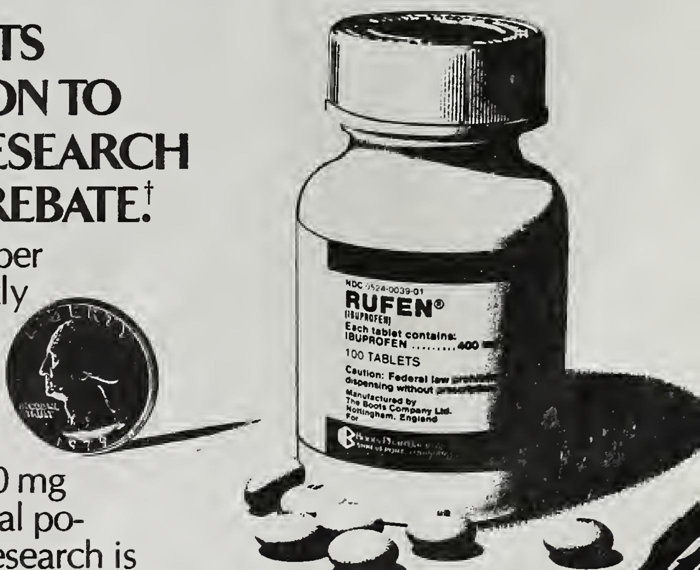

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**WARNINGS:** Anaphylactoid reactions have occu
in patients hypersensitive to aspirin (see CONTRAIN
CATIONS). Peptic ulceration and gastrointest
bleeding, sometimes severe, have been repor
Peptic ulceration and gastrointestinal bleeding, so
times severe, have been reported. Peptic ulcerat
perforation, or gastrointestinal bleeding can end fat
however, an association has not been establish
Rufen should be given under close supervision to pati
with a history of upper gastrointestinal tract disea
and only after consulting the ADVERSE REACTIO
In patients with active peptic ulcer and active rheu
toid arthritis, nonulcerogenic drugs, such as g
should be attempted. If Rufen must be given, the pat
should be under close supervision for signs of u
perforation or gastrointestinal bleeding.
**PRECAUTIONS:** Blurred and/or diminished vis
scotomata, and/or changes in color vision have been
ported. If developed, discontinue Rufen and admini
an ophthalmologic examination.
Fluid retention and edema have been associated
Rufen; caution should be used in patients with a his
of cardiac decompensation.
Rufen can inhibit platelet aggregation and prol
bleeding time. Use with caution in patients with intri
coagulation defects and those taking anticoagula
Patients should report signs or symptoms of gastr
testinal ulceration or bleeding, blurred vision or o
eye symptoms, skin rash, weight gain or edema.
To avoid exacerbation of disease or adrenal in
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this therapy should be tapered slowly when adding Ru
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levels.
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should not be taken during pregnancy nor by nurs
mothers.
**ADVERSE REACTIONS**
**Incidence greater than 1%**
**Gastrointestinal:** The most frequent adverse reac
is gastrointestinal (4% to 16%). Includes nausea*, epi
tric pain*, heartburn*, diarrhea, abdominal distr
nausea and vomiting, indigestion, constipation, abd
nal cramps or pain, fullness of GI tract (bloating
flatulence). **Central Nervous System:** dizziness*, h
ache, nervousness. **Dermatologic:** rash* (inclu
maculopapular type), pruritus. **Special Senses:** tinn
**Metabolic:** decreased appetite, edema, fluid retent
Fluid retention generally responds promptly to
discontinuation (see PRECAUTIONS).
*Incidence 3% to 9%.
**Incidence less than 1 in 100**
**Gastrointestinal:** gastric or duodenal ulcer with ble
ing and/or perforation, hemorrhage, melena. **Cen**
**Nervous System:** depression, insomnia. **Dermato**
**ic:** vesiculobullous eruptions, urticaria, erythema m
forme. **Special Senses:** amblyopia (see PRECAUTIO
**Hematologic:** leukopenia, decreased hemogl
and hematocrit. **Cardiovascular:** congestive h
failure in patients with marginal cardiac funct
elevated blood pressure.
**Causal relationship unknown**
**Gastrointestinal:** Hepatitis, jaundice, abnormal
function. **Central Nervous System:** paresthesias,
lucinations, dream abnormalities. **Dermatologic:**
pecia, Stevens-Johnson syndrome. **Special Sens**
Conjunctivitis, diplopia, optic neuritis. **Hematolo**
hemolytic anemia, thrombocytopenia, granulocytop
bleeding episodes. **Allergic:** fever, serum sickn
lupus erythematosus syndrome. **Endocrine:** g
comastia, hypoglycemia. **Cardiovascular:** arrhythn
(Sinus tachycardia, bradycardia, and palpitatio
**Renal:** decreased creatinine clearance, polyuria,
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*Obstetrics & Gynecology*

# etal Acid-Base onitoring

niel F. O'Keeffe, M.D.

ors:
on C. Butler, M.D.
ter B. Cherny, M.D.

**e Patient Care Committee of the Department of stetrics and Gynecology, Good Samaritan Hospital, oenix, from time to time develops certain ormational materials for distribution to the sician staff in the Department as part of its nmitment to Continuing Medical Education. Some hese shall be reprinted here because of their value to physicians who care for the parturient. WBC**

tract
etal acid-base monitoring used in conjunction with l heart rate monitoring has been said to give a more urate appraisal of fetal well-being in utero at times en abnormal fetal heart rate patterns become lent. Fetal acid-base monitoring can be of great value he practicing clinician providing that serious pitfalls ts use be recognized.

---

he principal organ of acid-base homeostasis for the is in utero is the placenta. Under normal steady state ditions, fetal acid-base status is determined by the ther. Only when placental exchange is impaired, are fetal homeostatic mechanisms for acid-base ulation evoked. As the transplacental diffusion of gen from the mother to the fetus becomes restricted, distressed fetus begins to use an anaerobic pathway netabolism and excess amounts of lactic acid start to umulate. For this reason, fetal blood pH can be used in indirect measurement of fetal oxygenation.

brief review of the metabolism of glucose, the main energy producing substance of the fetus, shows that it is first broken down to lactic acid. When available oxygen is plentiful, the more efficient *aerobic* pathway of metabolism is followed, and the lactic acid is further broken down to $CO_2$. It is this reaction which yields the largest amount of energy for use by the fetus. However, when oxygen is lacking or absent, the lactic acid cannot be broken down. Therefore, it accumulates, causes an excess retention of hydrogen ion, and in this manner is responsible for producing a metabolic acidosis. The fetus, in an effort to protect itself, needs to use its buffering systems primarily with bicarbonate and hemoglobin. As these substances are used more, the concentration of each drops, resulting in a rise in the base deficit, and this provides yet another clue to differentiate between metabolic and respiratory acidosis in the fetus.

Understandably, changes in the mother's own acid-base equilibrium may have a secondary influence on the fetus. It is well known that $CO_2$ is easily and rapidly transferred across the human placenta but the charged bicarbonate ion is moved relatively slowly. In cases of maternal hyperventilation when significant decreases in maternal $pCO_2$ and the resulting rise in maternal pH are observed, alterations in the fetal blood $pCO_2$ and pH are observed very quickly. The rise in pH in the fetus is generally less than that in the mother. Maternal hypercarbia is also rapidly transmitted to the fetus inasmuch as the fetal $pCO_2$ always remains higher than the maternal $pCO_2$. Clearly, then, conditions associated with maternal respiratory acidosis or alkalosis can produce similar pH changes in the fetus quickly. In contrast, since bicarbonate ion crosses the placenta rather slowly, any maternal alteration in metabolic acidosis or alkalosis takes longer to be transmitted to the fetus. It is felt that four hours or more are needed for significant transfer of bicarbonate ion to occur. Because of this, bicarbonate should probably not be used for the treatment of fetal acidosis in utero. The suggestion it may be injurious comes from animal studies that indicate an infusion of bicarbonate ion is followed by an increase in $pCO_2$ in the mother which in turn is transferred to the fetus, further reducing the fetal pH, and aggravating the fetal acidosis in utero.

It is quite important when doing an analysis of a fetal blood scalp sample to do a concurrent study on maternal blood to determine acid-base status in both. Venous blood is suitable, because the difference between the venous and arterial samples during labor are trivial as to pH, $pCO_2$ and the base deficit. These differences are as follows: .04 units for pH, 3 mm of Hg for $pCO_2$ and 0.4 meq/liter for base excess. Of further benefit in evaluating the status of the fetus would be to do a $pCO_2$, $pO_2$ and a base deficit on all fetal and maternal blood samples. This requires approximately 120 $\mu l$ of blood compared to the general 50 or 60 $\mu l$ needed for a pH alone in the fetal sample, and approximately 1 to 2 cc of maternal blood.

---

n: Department of Obstetrics and Gynecology, Good Samaritan oital, Phoenix, Arizona, where Dr. O'Keeffe is director of ernal Fetal Medicine.

Table
Fetal Scalp Blood Values

| | ph | $pCO_2$ | $pO_2$ | Base Deficit |
|---|---|---|---|---|
| Normal | 7.25—7.35 | 40—50 mm Hg | 20—30 mm Hg | < 10 meq/lit |
| Metabolic Acidosis (late decelerations placental insufficiency) | < 7.25 | 45—55 mm Hg | < 20 mm Hg | > 10 meq/lit |
| Respiratory Acidosis (variable decelerations umbilical cord compression) | <7.25 | > 50 mm Hg | Variable | < 10 meq/lit |

**Prerequisite to make effective clinical use of fetal scalp blood sampling are:**

1. Twenty-four hour ready access to accurate micro blood gas analysis with a 10 to 15 minute reporting time capability.

2. Readiness to implement procedures for rapid operative intervention should it be found necessary.

3. Patients should be in labor, with the membranes ruptured and with sufficient cervical dilatation to allow introduction of the cone (2 to 3 cm's of dilatation). The fetal head should be at station -2 or lower.

**The major indications when fetal scalp blood sampling may be found useful are:**

1. Any sustained flat heart rate on monitor tracing without ominous periodic changes, especially if tachycardia is noted.

2. Any uncorrectable late decelerations when there is good variability and when vaginal delivery is anticipated within 60 to 90 minutes.

3. Whenever there is a confusing fetal heart rate pattern suggesting fetal hypoxia.

As one better understands the patterns of fetal heart rate monitoring, the frequency of necessary fetal scalp blood sampling tends to, and should, decline.

The reliability of fetal scalp blood sampling needs to be understood. There is a clear, though imperfect, correlation between the absolute fetal pH and fetal well-being.

**It has been shown in special studies of fetal scalp blood sampling that:**

1. There is a strong correlation between fetal acidosis and fetal hypoxia.

2 About 20% of infants with a pH of less than 7.15 remain vigorous.

3. About 5 to 10 percent of infants with a pH of less than 7.10 *will not be depressed.*

4. With a pH above 7.25 about 90 to 95 percent of fetuses will not be depressed.

**A low pH can be found when:**

1. There is local stasis of blood in the area where the sample was taken.

2. There is contamination of the sample by amnio fluid (which has a pH less than 7.25) or tissue fluid fr the caput succedaneum.

3. Mouth suction is used to obtain the blood. Prop technique requires that the blood should be allowed flow freely into the heparinized tube.

4. Glycolysis occurs, as when a sample is allowed remain at room temperature for a prolonged peri Then lysis of RBC's will decrease the pH.

5. There is maternal acidosis.

**Misleading false high pH's can be found when:**

1. There is loss of $CO_2$ from a sample; this can happ when the blood is permitted to remain in a plas syringe for a protracted time before being taken to t blood gas laboratory.

2. There is maternal alkalosis as previously describ

**False "Normal" (Fetal pH Normal — Baby depress values may be encountered when there is:**

1. Depression due to drugs or anesthesia
2. Infection in the infant
3. An episode of asphyxia occurs after the fetal blo sample is taken.
4. A previous episode of asphyxia followed wi recovery of blood gas and acid-base state witho recovery of the central nervous system.
5. Congenital abnormalities
6. Precipitous delivery, or a difficult mid-force delivery
7. Prematurity

**False "Abnormal" (Fetal pH Low — Baby Vigorou values can be found with:**

1. Maternal acidosis as previously mentioned.
2. Individual variations in response of the cent nervous system to acidosis in each baby.

Fetal scalp sampling is not without complications b they have been found to occur less than one percent the time. They consist of:

1. Scalp wound
2. Abscess formation
3. Cephalhematoma
4. Serious fetal hemorrhage.

inical Interpretation of Scalp pH Values

**Vhen an abnormal heart rate tracing is found:**

1. If the fetal scalp pH is above 7.25 it is reasonable to ntinue to observe the patient. If the ominous fetal art rate pattern persists, however, one is then obliged resample at appropriate intervals not to exceed 30 nutes.

2. If the fetal scalp pH is between 7.20 and 7.25, it is cessary to resample immediately in order to confirm e value and determine if there is a trend. If this is nfirmed and the vaginal delivery is not very near, erative delivery would be indicated. There is some ference of opinion on this because some would prefer wait until the value got to 7.20 or below.

3. If the initial sample is below 7.20, intervention is arly indicated. Again, it should be emphasized that all ese values be interpreted together with the maternal nous pH done at the same time, if possible. The $pCO_2$, $)_2$, and base deficit both on the fetus and the mother ould be done.

**It is crucial to remember that:**

1. Changes in fetal scalp blood pH occur only after nificant anaerobic metabolism has occurred.

2. Fetal heart rate changes of late deceleration nerally occur when there is early hypoxemia before tabolic acidosis has developed.

What then, is the appropriate point for intervention ing these two modes of assessing the fetus? This is an resolved dilemma still under active debate. If one re to react to all uncorrectable late decelerations by ing operative delivery, it is clear that there would be a ry commendable incidence of babies with high GAR scores and probably some unnecessary ervention. However, if one were to wait for the pH to l, there would undoubtedly be less operative ervention, but by the time delivery occurred there uld be found more acidotic neonates with low GAR scores and possibly other sequelae of neonatal phyxia. The obstetrician probably best serves a patient following a course between the two.

It is thus left to the judgment of the clinician to use ctronic fetal heart rate monitoring and fetal scalp od sampling as complementary methods that are only rts of the broader clinical picture that must be preciated in order to make appropriate decisions for ervention or nonintervention.

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*Oncology*

# Chemotherapy in the Treatment of Esophageal Carcinoma

Frederick R. Ahmann, M.D.

Editors:
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Esophageal carcinoma accounts for one percent of all malignancies and two percent of malignancy-related deaths in this country. Males have a much higher incidence of developing this tumor and geographic epidemiology demonstrates very high incidences of this disease in the USSR, Japan, China, Scotland, parts of Africa, and the Middle East. The cause of this geographic distribution is unclear as is the cause of esophageal carcinoma. Most of these tumors are squamous cell carcinomas with 10% being in the cervical esophagus, 40% in the upper thoracic esophagus, and 50% in the lower thoracic esophagus.

The separation of esophageal tumors pathologically into adenocarcinomas or squamous cell carcinomas is essential. In general, this concerns only lesions located near the gastroesophageal junction, as true adenocarcinomas of the esophagus higher up are rare. The vast majority of carcinomas involving the gastroesophageal junction are adenocarcinoma of gastric origin.[1] The spread of adenocarcinomas of the stomach is not impeded by the gastroesophageal junction and these tumors commonly invade the esophagus. Adenocarcinoma of the stomach has distinct prognostic features and carries with it therapeutic implications different from those of squamous cell carcinomas.[2] Unfortunately, it is not uncommon in the

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literature to see these distinct tumor types considered together. The results of such analysis and studies are difficult to interpret. This review of chemotherapy in esophageal carcinoma applies solely to squamous cell carcinomas of the esophagus and is not applicable to adenocarcinomas.

One other point should be made prior to moving on to a discussion of the value of anti-cancer drugs in squamous cell carcinoma of the esophagus. As is well known, long-term survival rates are low with this disease, usually reflecting the advanced stage of this disease when discovered. Consequently, more aggressive primary treatment approaches must take into account a rigorous pretherapy staging. Presuming the absence of spread to other organs, lymph node involvement is the best predictor of incurable disease.[3] It has not been standard surgical practice to determine either pre- or intraoperative nodal status. This problem is complicated by the fact that the lymphatic drainage of the esophagus is unpredictable and nodal areas involved can range from intra-abdominal nodes to neck nodes.[4] Only when accurate staging data are available can subgroups of patients be approached with aggressive local or combined modality therapy in an effort to obtain a higher percentage of long-term survivals.

The use of anti-cancer drugs, chemotherapy, in squamous cell carcinoma of the esophagus has been poorly investigated and most reports have not been encouraging. Chemotherapy in esophageal carcinoma should be divided into two categories: 1) use of drugs as a single therapeutic modality in metastatic, recurrent, or residual disease; and 2) use of drugs as part of combined modality therapy as either primary or palliative treatment.

As the sole therapeutic modality, single-agent chemotherapy has failed to bring about a 50% or greater shrinkage of tumor in more than one of five patients. Drugs with a demonstrated significant response rate as single agents include: bleomycin (19%), 5-FU (20%), CCNU (16%), methotrexate (12%), and vindesine (17%).[5,6] Reports utilizing combination chemotherapy in squamous cell carcinoma of the esophagus are more encouraging but are largely unconfirmed pilot studies. Five of ten patients at Albert Einstein treated with cis-platin, methotrexate, and bleomycin have attained a partial response and six of fourteen patients at Sloan Kettering treated with vindesine, bleomycin, and cis-platin have achieved a partial response. These study results remain to be confirmed in larger numbers of patients. Thus far, no overall survival benefit has been found for the use of chemotherapy as a single treatment modality.

The use of chemotherapy in combined modality treatment approaches for esophageal squamous cell carcinoma is also a little investigated area. However, several unconfirmed pilot studies have yielded intriguing results. At Sloan Kettering, the combination of vindesine, bleomycin, and cis-platin has been given to 28 patients with local-regional disease prior to surger Twenty of these patients went on to have surgery a 15 were resected. After surgery, an additional course chemotherapy was repeated and this was followed radiotherapy. Follow-up is short (two to fourte months), but none of these patients have relapsed.

At Wayne State, 55 patients have been entered or study of preoperative mitomycin, 5-FU, a radiotherapy. Thirty completed preoperative thera and underwent surgical evaluation. Twenty-three h surgery and the median survival for these 30 patients one year.[9] The Japanese have been doing similar studi utilizing bleomycin but have been disappointed becau of a significant amount of pulmonary toxicity.

The use of chemotherapy with radiotherapy has h variable results. The Eastern Cooperative Oncolo Group was unable to demonstrate any benefit of addi chemotherapy with bleomycin to radiation therapy, b a study in Yugoslavia has found benefit in combini radiotherapy with chemotherapy using bleomycin a adriamycin as compared to chemotherapy alone.[10] Needless to say, no definite conclusions are possible this time.

In summary, there is no established role f chemotherapy either alone or as part of combin modality therapy for squamous cell carcinoma of t esophagus. Nevertheless, an attitude of therapeut nihilism will result in only a persistence of this situatio As shown, pilot studies of combination chemothera alone or when combined with radiation and surgery a yielding some encouraging results. Patients wi esophageal carcinoma, when possible or practic should be referred to centers conducting clini research in this malignancy.

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Ophthalmology

# pectacles in Childhood

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## ostract

Although there are many reasons why a particular ild may have been prescribed his or her glasses, the sic indications for spectacle prescription remain vofold: 1) to optically correct a significant refractive ror, and 2) to allow the proper balance between commodation and convergence.

The purpose of this review is to outline the indications r spectacle prescription in childhood and to answer the estions most commonly posed by parents to their mily doctor or pediatrician about eyewear for their ild.

## troduction

Family physicians and pediatricians frequently have ildren in their practice who are wearing corrective ectacle lenses (Figure 1). As spectacle corrections may fluence a child's motor and scholastic skills and invite equent questioning from parents, it is important for all nicians who routinely see children to understand the inciples of spectacle use. Most importantly, they ould understand the reason why a particular child is earing glasses.

The purpose of this review is to reacquaint the nician with the indications for spectacles in childhood d to answer the questions most frequently asked by rents.

## fractive Errors

The most common reason why children wear glasses because they have a significant refractive error and are us visually blurred without the proper spectacle rrection. These children may be nearsighted (*myopic*), rsighted (*hyperopic/hypermetropic*), have a significant tigmatic refractive error, or have a significant ference in the refractive errors between the two eyes *isometropic*).

**Figure 1**
**A 6-year-old in glasses.**

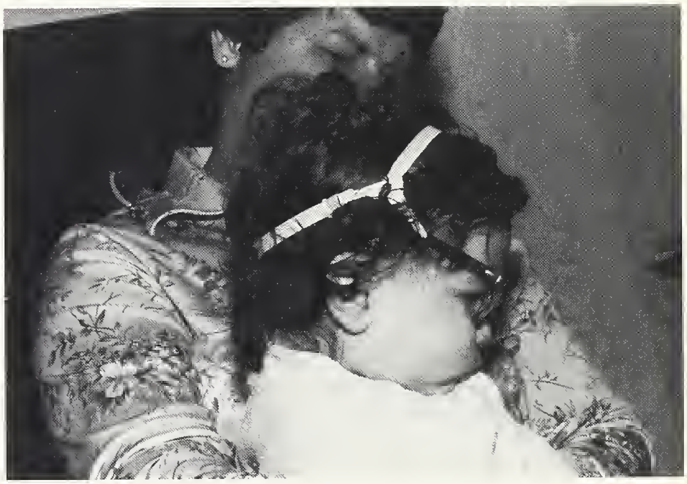

**Figure 2**
**A 4-month-old with a high astigmatic refractive error who has been fit with a spectacle harness.**

Infants are typically prescribed spectacle correction after a significant refractive error is coincidentally found on examination. Usually they were initially referred for some other ocular or strabismus problem. In general, any hypermetropic refractive error over +3.00 dioptres, myopia of -1.00 dioptre or more, astigmatic refractive errors of +1.00 dioptre or more, and any significant anisometropia are given consideration for treatment. The primary purpose is to permit optical clarity which may be prophylactic against some forms of amblyopia (see below) and may be crucial for the normal development of a child's vision.

Interest has recently arisen over the refractive errors in premature infants and those of full gestational age.[1-3] A high incidence of myopia, anisometropia and high astigmatism has been reported in prematures.[4] These refractive errors may continue into childhood. From monkey experiments on visual deprivation, we have come to recognize a "critical period" in the development of an infant's normal visual behavior.[5,6] Proper spectacle

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correction of any significant refractive error, with close follow-up, may be crucial in allowing normal visual development.

Infants with their small, flat nasal bridges certainly pose problems as far as spectacle fit is concerned. Some form of a spectacle harness usually works best with infants (Figure 2), although smaller conventional frames may suffice if available in toddler sizes (Figure 3). Some frame companies offer a special bridge which will permit the proper positioning of the spectacle frame on the infant's nasal bridge.

School age children with a visual impairment are often screened out during the routine school vision checks. Older children however may vocalize their complaints of poor vision. It has been estimated that 15% of school age children require corrective spectacle lenses.[7]

A frequent question asked is whether headaches in children are usually due to uncorrected refractive errors or an underlying strabismus problem. In my experience, headaches in childhood are seldom of asthenopic origin.

In infants and children of all ages, the assurance of a proper frame fit (Figure 4), the dispensing of the proper prescription, and the proper positioning of the optical centers of the lenses (Figure 5) are critical. The principles of dispensing that are used with adults are particularly important with children. This is especially true when a strabismus is superimposed. Poor workmanship is inexcusable but unfortunately is not at all uncommon with the advent of high volume, discount optical shops. Parents should be dissuaded from "bargain shopping" when it comes to their child's eyewear.

At all ages, plastic frames are preferred for children. Some frames have spring loaded hinges which permit overextension of the bows without breaking or bending the frame. Many frame companies offer a 12 to 15 month guarantee against frame breakage in normal wearing conditions, which is good news for parents.

Wire frames should be outlawed for children for many reasons. The primary problem is that they are invariably bent and misshapen within a very short period of time (Figure 6).

In the past, glass lenses were preferred over plastic primarily because of their scratch resistance. With higher refractive errors, the actual physical weight of the lenses becomes too great and plastic lenses are the only realistic alternative. Of late, new scratch and impact resistant plastic polymers (polycarbonates) have appeared on the market which have become my preferred choice of lens material for children of all ages.

The retail cost of the glasses will vary from $65.00 to $100.00, depending on the cost of the frame chosen. The polycarbonate lenses are usually an additional $20.00.

Tints are not to be recommended for children. Ultraviolet (UV) light is significantly reduced in only a small minority of lenses and certainly not by the types of cosmetic tints that are usually dispensed.[8] With advancing age, children tend to become increasingly dependent on darker and darker tints. When indoors or

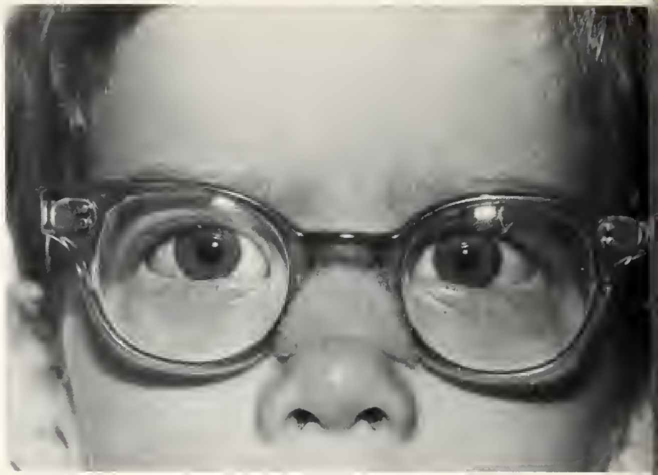

Figure 3
Note the foam rubber nasal support required for the proper
of this small infant frame.

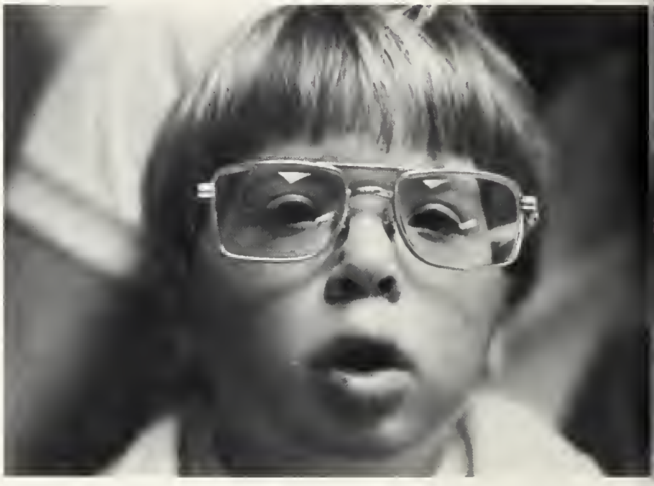

Figure 4
A very poor spectacle fit. Here is a 4-year-old with
oversized, adolescent frame. The child's PD was 51 mm wh
the optical centers were at 65 mm.

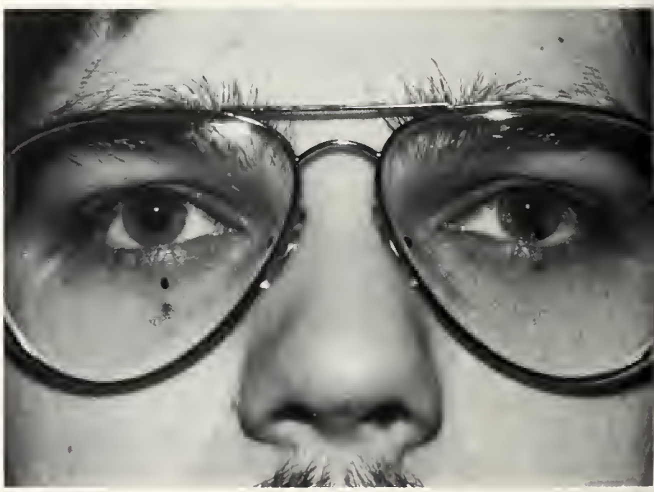

Figure 5
Example of spectacle-induced asthenopia. Note the position
the optical centers of the lenses (black dots).

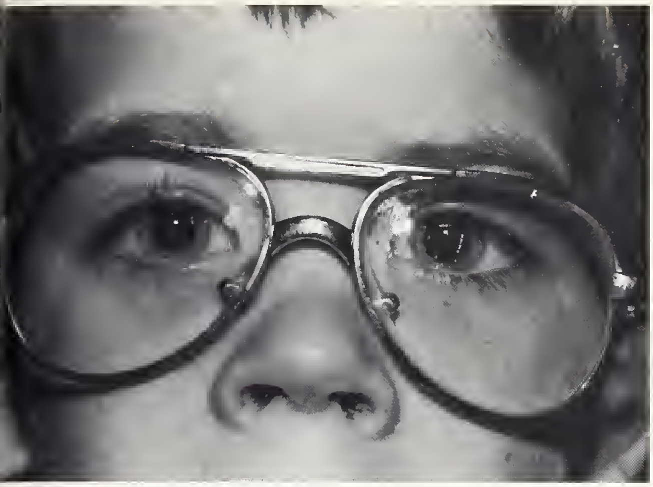

Figure 6
wire frame bent out of shape with a broken left bow within
e week after being dispensed.

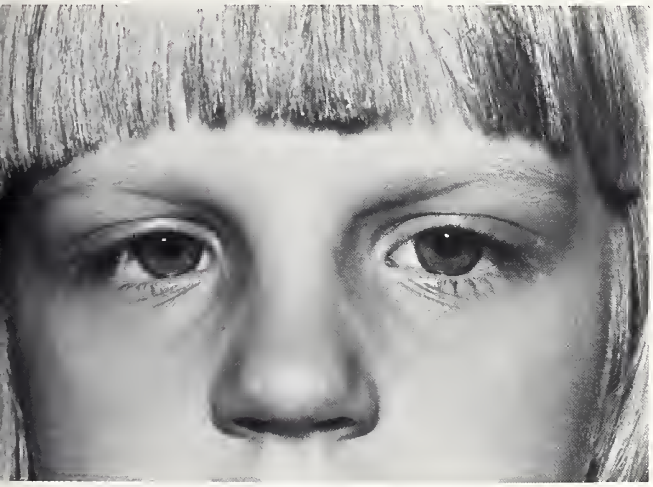

Figure 7
6½-year-old with a right esotropia of sudden onset after her
rents divorced.

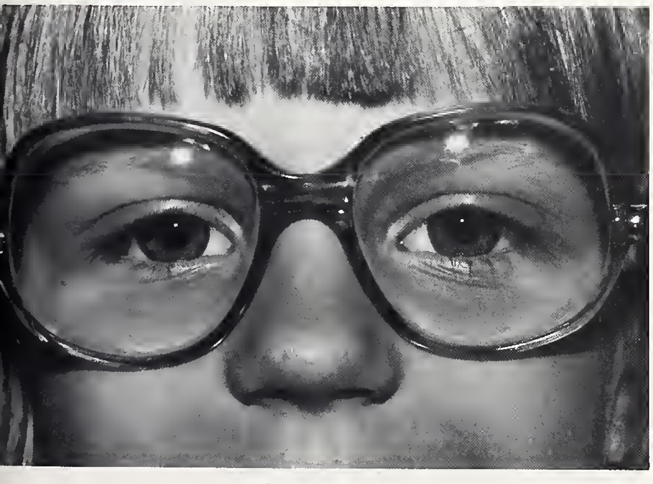

Figure 8
me child as in Figure 7. Fusing with full spectacle correction
her hypermetropia (O.D. =4.25 =0.75 cx 90, O.S. =3.75
.50 cx 90).

in darkness, these tints may present a problem visually. These tints add an additional $10.00 to $15.00 to the base price.

Parents often ask about the photogrey-like lenses which automatically darken when outdoors. These lenses are available only in glass and are also an additional $10.00 to $15.00. I tend to have the same misgivings about these types of lenses as well.

The frequency of the follow-up visits has to be individualized for each child depending on the underlying problem. In general, children should have follow-up cycloplegic refractions on an annual basis while infants should be reviewed every three to four months.

### Congenital Cataracts

There is increasing evidence that if congenital cataracts are diagnosed early, i.e., within the first few weeks of life, are surgically removed and are followed up with aggressive orthoptic and contact lens therapy, the prognosis for useful vision may be reasonably good.[9] In fact, some astonishingly good results have been reported.[10] If treatment is delayed to one year of age or more, the results are almost uniformly dismal.[9] Contact lens fitting in infants obviously poses some problems but these are not insurmountable.

Should contact lenses prove unsatisfactory in a particular child, the clinician must resort to conventional aphakic spectacle correction. The therapeutic results are seldom as dramatic as with contact lenses.

Most of the high retail cost for aphakic spectacles ($150.00 to $250.00) and the aphakic contact lenses ($150.00 to $350.00 for each lens) is often covered by medical insurance.

### Strabismus — Refractive, Accommodative Esotropia

This is a common form of acquired esotropia in childhood. The average age of onset is two to three years with a range of four to six months to seven to ten years. The child is often noticed by parents or teachers to have a periodic inturning of either eye, although one eye may be preferred over the other. Usually the problem is worse at the end of the day or when the child is fatigued or ill. Typically the esotropia is of variable magnitude but in general, progressively worsens with time. On occasion the onset is abrupt, seemingly precipitated by a febrile illness, viral exanthem or surgery and obviously is of great concern for both parents and attending physicians. Family strife and break up may be of sufficient stress to precipitate a sudden esotropia in predisposed children (Figure 7).

Presumably these children have enjoyed only borderline fusional control of their eso-deviation. Under periods of stress of whatever etiology, or with periods of interrupted fusion (e.g., occlusion), they decompensate very quickly and present with an esotropia of sudden onset.

Two factors are etiologically responsible in this form of childhood strabismus. First of all, these children have an uncorrected, moderately high hypermetropic refractive error, averaging +4.00 diopters. When combined with insufficient fusional divergence control, the accommodative effort that is required to see clearly and overcome the hyermetropia will result in the appearance of an intermittent, manifest eso-deviation.

The therapy is straight forward. Full spectacle correction of their hypermetropic refractive error permits stable ocular alignment (Figure 8). The prognosis for single binocular vision is excellent. If the child is of sufficient age and maturity, contact lenses become an alternative (see below). *These patients are not surgical candidates.*

### Strabismus — Nonrefractive, Accommodative Esotropia

This is another common form of acquired childhood strabismus, of similar age at onset as the forementioned variety. Although these children are often hypermetropic, they may have no significant refractive error (*emmetropic*) or may even be myopic.

These children have an abnormally high convergence response linked to a given accommodative effort (i.e., a high AC/A ratio). Although with spectacle correction their eyes are aligned at distance fixation, whenever they look at anything up close their eyes cross.

This unique form of strabismus is the *only indication for bifocals in childhood*. The specific diagnostic and therapeutic criteria will be outlined elsewhere[11] as this continues to be the most commonly mismanaged form of childhood strabismus in my experience.

The most common problem that I encounter is the *improper placement of the bifocal segment* (Figure 9). As opposed to adults where the indication for the bifocal segment is clearly different, small nonobtrusive segments are clearly worthless in this form of strabismus. A large, executive segment is required (Figure 10) which actually intrudes into the child's line of sight. Otherwise the segment is never used and no functional benefit is gained. The retail cost of these executive bifocals is approximately $90.00 to $150.00.

The "invisible" bifocal or verilux-like lens has been touted as an acceptable form of management, [12] but unfortunately, the conclusions were drawn from a nonhomogenous group of patients in which one half were clearly not bifocal candidates. The many shortcomings of these very expensive lenses have been outlined.[13]

The second most common problem that I encounter is *children who have been placed in bifocals who clearly do not fuse with them and hence derive no functional benefit from them* (Figure 11). Children are placed in bifocals for a specific therapeutic reason. Most importantly, they are not prescribed bifocals to make them *appear straighter*. The clinician who prescribes bifocals to make the esotropia appear smaller in magnitude is actually treating the parents and himself rather than the child.

As in all forms of childhood strabismus, close follow-up is necessary. With time and age, fusional control may improve and the child may be progressively "weaned"

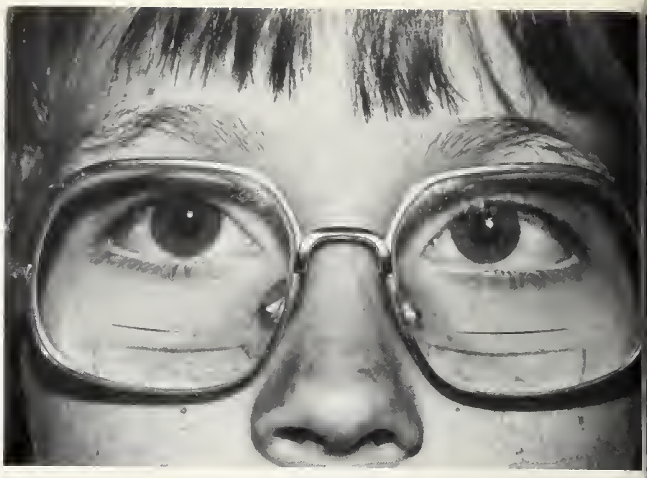

**Figure 9**
A 7-year-old in bifocals. Note that the bifocal segment is
low and that she is constantly esotropic.

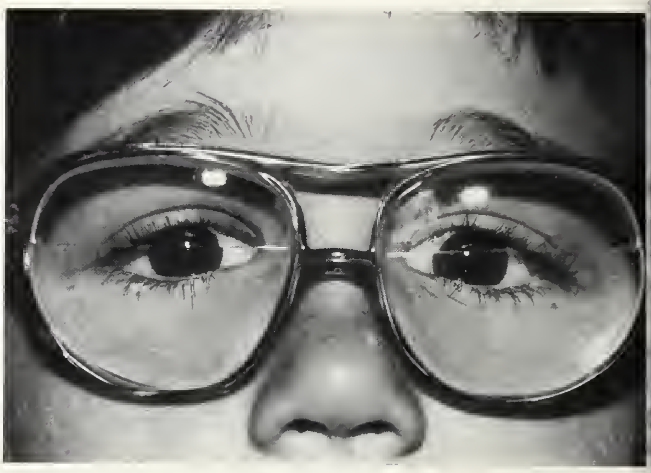

**Figure 10**
The proper position of the executive bifocal segme
(bisecting the pupils at distance fixation), with orthophoria
near fixation.

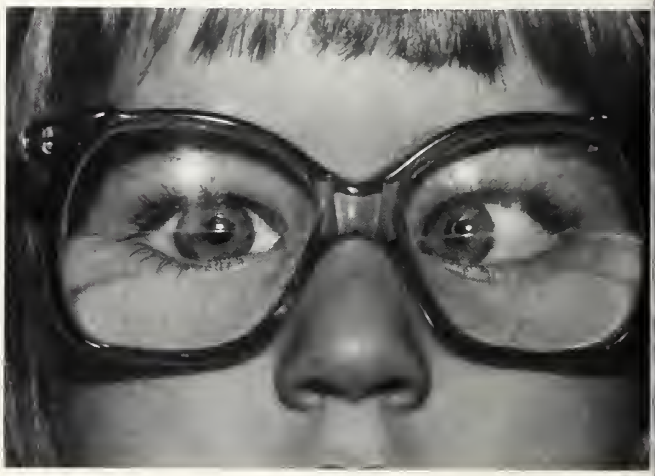

**Figure 11**
Perfect positioning of an executive bifocal segment but
child never fuses and is constantly esotropic.

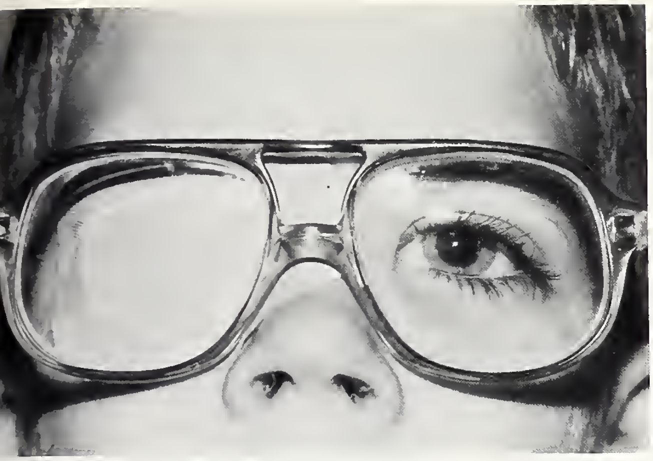

**Figure 12**
he treatment of amblyopia—full spectacle correction of a gnificant refractive error with occlusion of the preferred /e.

ff of the bifocal segment. When followed, pproximately one half of these children remain totally ependent on their bifocal, approximately one quarter emonstrate serial improvement but are still in a bifocal f lesser strength, and only in less that a quarter of these hildren can the bifocal be totally eliminated.[14] If on ollow-up the child demonstrates functional eterioration despite maximal bifocal strength, or if the hild is becoming a teenager and still requires bifocal orrection, then surgical alternatives can be considered.

### trabismus — Partially Accommodative Esotropia

Frequently childhood esotropia may have an ccommodative component, in that the magnitude of the so-deviation is reduced but not eliminated by full pectacle correction of the hypermetropic refractive rror. These cases *are surgical candidates*, the amount of urgery being directed toward the magnitude of the sotropia not corrected by the glasses. Postoperatively, he power of the spectacle lenses can be adjusted so the urgical result can be "fine tuned" if necessary.

### mblyopia

There is a specific form of amblyopia where one eye is mblyopic because of a pronounced asymmetry in the efractive error between the two eyes (*anisometropic nblyopia*). This may be due to a difference in the degree f myopia (anisomyopia) or hypermetropia anisohypermetropia). As these children may not have a nanifest strabismus, the problem may not be recognized ntil they reach school age or later.

Therapy involves the full spectacle correction with atching of the sound eye using the conventional cclusion techniques. The prognosis may be reasonably ood if the diagnosis is made early in childhood or nfancy, and the therapy is aggressive.

Another special form of amblyopia is quite uncommon nd is due to bilateral, high hypermetropia that has been nrecognized and untreated, often until the child eaches school age (*ametropic amblyopia*). This is a most isconcerting situation, as these children have a *bilateral* mblyopia. Other than full spectacle correction and a tincture of time, little else can be done therapeutically. The prognosis is often guarded, despite reassurances to the contrary in the optometric literature.[15]

### Amblyopia Therapy

Spectacle correction of any significant refractive error, combined with conventional occlusion therapy, still constitutes the basic framework of any amblyopia management regimen (Figure 12). The principles of these techniques are beyond the scope of this review.

### Amblyopia Therapy — Penalization

There is a form of optical therapy which may be used in the treatment of milder cases of amblyopia or for maintenance management after the amblyopia has been treated by conventional occlusion. This is known by the very unfortunate name of *"penalization."*

The principle here is that by using a combination of mydriatrics (e.g., 1% Atropine drops) and various spectacle corrections, the sound or nonamblyopic eye can be optically blurred (i.e., "penalized") at a particular fixation distance. Thus by blurring the good eye, one can optically encourage alternate fixation between the sound eye and the amblyopic eye at various fixation distances. The specific indications for and the various types of this form of amblyopia management have been reviewed elsewhere.[16] This is a very useful and a very promising form of amblyopia therapy but the clinician must be totally aware of the indications and shortcomings.

### Prism Therapy

Prisms are seldom employed in the treatment of childhood strabismus. The basic indications for prism therapy are twofold: 1) to maintain stable, comfortable, and single binocular vision in the face of an underlying strabismus, and 2) for the therapeutic modification of sensory anomalies that may be found in untreated strabismus (i.e., eccentric fixation, anomalous retinal correspondence). Although the former indication has been readily accepted, the therapeutic efficacy of the latter is open to considerable debate.

In childhood strabismus, prisms seem to find most of their use in the treatment of exo-deviations. Small angle, intermittent exotropias have been shown to respond just as well to a combination of spectacle correction, prisms and orthoptic exercises as to strabismus surgery.[17] A consecutive esotropia, an unfortunate consequence after surgery for childhood exotropia, should be treated aggressively. Prismatic correction in spectacles is often indicated.

A very uncommon form of strabismus, usually seen in adolescence, is *combined accommodative-convergence insufficiency*. These patients have a typical convergence insufficiency, being unable to maintain stable ocular alignment at near fixation. Superimposed is an accommodative insufficiency making these patients, in fact, "prepresbyopic." It has been clearly shown that these patients do not respond to conventional orthoptic management.[18] They require spectacle correction using a combination of a bifocal segment plus base-in prisms in that segment. The use of the convenient paste-on Fresnel prisms often is not well tolerated and one has to resort to conventional prisms in the bifocal segment. If this form of management proves inappropriate or unsuccessful in any given patient, then surgical options are considered with conventional bifocal correction in the postoperative period.

Prisms may also be used in the orthoptic management of *congenital nystagmus*. In some cases of asymmetric gaze nystagmus of congenital origin, there may be a "neutral zone" or a "nullpoint" where the nystagmus is least pronounced or even absent. In such cases, the child may assume a compensatory but anomalous head posture placing his eyes into that position of gaze where the nullpoint exists and hence, where the vision is optimal. I have recently seen a child with congenital hereditary downbeat nystagmus whose nullpoint was in upgaze. This child assumed an extreme chin down posture in order to see well (Figure 13). Spectacles were prescribed which have base-up prism in both lenses. This resulted in the assumption of a normal head posture (Figure 14) and an improvement in his reading.

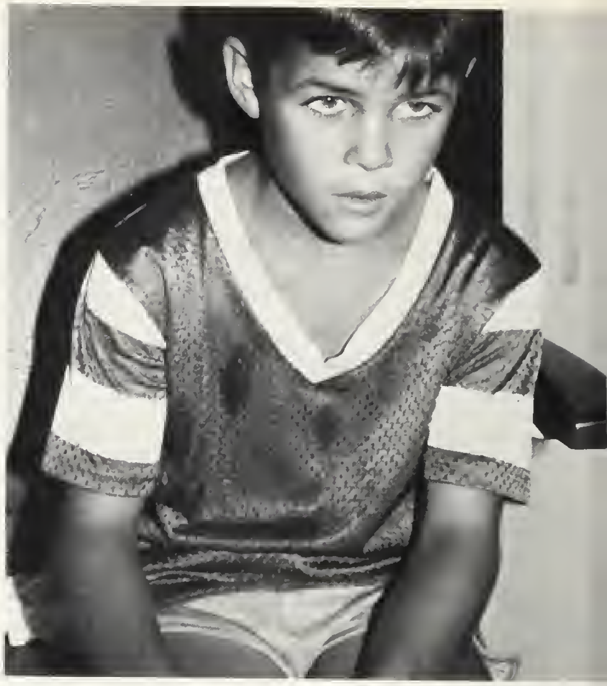

Figure 13
An 8-year-old with constant chin down head posturing (e
in upgaze) due to congenital downbeat mystagmus w
nullpoint in upgaze.

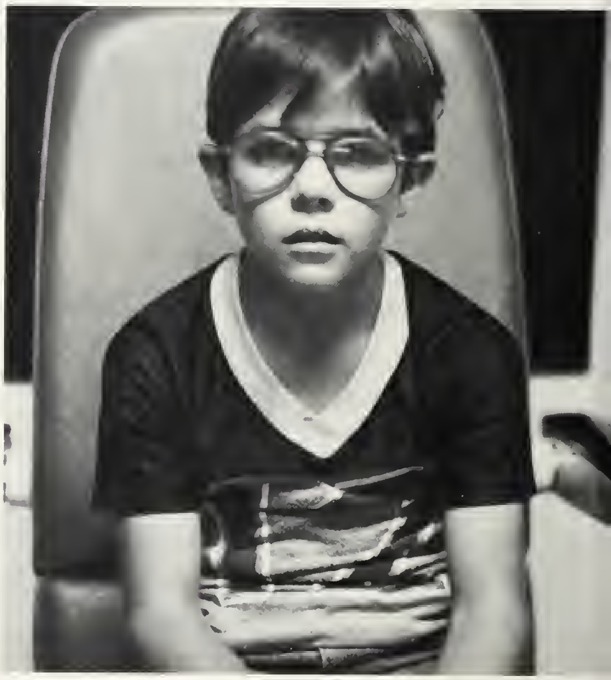

Figure 14
Same child as in Figure 13. Normal head posture with bilater
base-up prisms in his spectacles.

## The One-eyed Child

Occasionally one is confronted with an unfortunate child who has extremely poor vision in one eye which is untreatable. This is usually some form of organic amblyopia. Realizing that these children have only one useful eye, I feel it is imperative that they wear spectacles at all times for the protection that glasses afford against inadvertent trauma. The scratch and impact resistant polycarbonate lenses are certainly indicated in this instance.

## Childhood "Readers"

A not uncommon problem is the child who has been prescribed glasses to "ease" his reading and the "eye-strain" related with it. These glasses are typically low plus (i.e., less than +1.00 diopter hypermetropic corrections) and are invariably of no benefit to the child. Unless a child has a significant refractive error and/or has a strabismus problem for which spectacles should be worn at all times, the indication for "readers" in childhood are so rare as to be nonexistent.

## Contact Lenses in Children

A common question posed by parents is whether their child can wear contact lenses.

Certainly in specific instances, as in the treatment of congenital or traumatic cataracts of childhood, contact lenses are indeed indicated and, in fact, are the mainstay of therapy. Occasionally one is confronted with a child with an extremely high refractive error or an extreme amount of astigmatism for which contact lens correction may be an appropriate consideration.

For the majority of children, contact lenses should not be considered until the child is mature enough to undertake the responsibilities required in the care and maintenance of these lenses. When girls reach the age of 10 to 12 years or when boys reach the age of 12 to 14 years, I have usually found them to be responsible ough to take care of the contact lenses. First and remost, however, must be the desire on the child's part wear the contacts.

The retail cost of both hard contacts ($175.00 to 50.00) and soft contacts ($275.00 to $375.00) is not at inconsequential. If the child does not have sufficient aturity or desire to wear the lenses, then he will ickly lose interest and place them away in a drawer or se them playing. Here again parents should be ssuaded from bargain shopping as ophthalmologists e frequently confronted with the problems arising om the $99.00 specials from discount optical shops.

## mmary

Although there are certainly many reasons why ildren may have been prescribed spectacles, the basic inciples for prescribing glasses remain twofold. First all, glasses are prescribed to optically correct a gnificant refractive error so that sharp retinal imagery created and the normal use and development of the ild's vision may be possible. Secondly, spectacles are escribed to produce the proper balance between commodation and convergence to allow a stable nocular alignment. All children so treated should be osely followed by their ophthalmologist, with the equency of the follow-up visits determined by the rticular problem in question.

Each child is prescribed spectacles on an individual sis and the indications in each case should be clear cut.

If children do not like to wear their glasses, there may a number of factors to consider depending on the age the child. In the preschooler, the most common roblem is usually one of a poorly fitting frame that ther rubs on the nose, rubs behind the ears, or is too ght, too loose or too heavy. An improper spectacle rescription seldom seems to be a big problem with the reschooler as they will tolerate just about anything xcept a poorly fit frame. In the school age child, osmesis becomes a most important factor. Peer ressure and teasing can be important problems for ome children. This may be especially so if they did not elect the frames themselves or if they have a very high efractive error which makes the glasses cosmetically nattractive. School age children with the reading emands placed upon them, are less tolerant of incorrect rescriptions and may be more vocal in their complaints.

A common question posed by parents to their family hysicians and pediatricians is when should a particular hild be checked by an ophthalmologist. It is a commonly eld misconception that children cannot be adequately ssessed until of school age or until they know the lphabet. Both clinicians and parents should be made ware of this fallacy, as on occasion disastrous onsequences have resulted from this misguided line of hinking. Because preschoolers are rarely symptomatic, hey seldom are reviewed unless an obvious problem is resent and hence it is not uncommon for certain types f amblyopia not to be diagnosed until the child is of chool age or older.

In general, if there is any obvious visual or strabismus problem, if there is a positive family history of amblyopia or strabismus, or if there is just parental concern, the infant or child can be reviewed at any age. Under these circumstances, the assessment should be done as soon as possible and especially if there is a problem present before the first year of life. This is the most critical point for all to remember because there are many vision and life threatening ophthalmic and neurologic problems which may present with strabismus in infancy.

If there is no obvious problem and/or if the pediatrician or family physician is happy with the overall impression of the child's visual development, then the child probably does not need to be reviewed by an ophthalmologist until just prior to starting school. In this situation, I usually recommend that children be checked prior to starting kindergarten or first grade, just to make sure that he enjoys good vision and that neither a significant refractive error nor an underlying amblyopia exists.

Children of any age may be placed in spectacles if, indeed, a need exists.

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*Psychiatric Disorders*

# Treatment of Anorexia Nervosa

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Editor:
Thomas E. Bittker, M.D.

**Abstract:**

Although Anorexia Nervosa (AN) became established as a clinical entity over 100 years ago, it was considered a rare disorder until recently. Today, a high prevalence and seemingly increasing incidence[1] of AN and related eating disorders has sparked a widespread interest in the treatment of those afflicted with self-induced starvation. As in most psychiatric syndromes, treatment strategies vary, with each major "school of thought" making its own contribution. However, this syndrome has a clearly associated mortality,[2] so careful medical as well as psychotherapeutic management is required. It is essential that the psychiatrist and other medical doctors treating a patient with AN be familiar with the various physical complications attending this disorder. This paper will outline these complications and then briefly examine the various psychotherapeutic strategies employed in treating AN.

By the time the anorectic patient presents to t
psychiatrist she will most likely have undergone
extensive medical evaluation of her "unexplaine
weight loss. However, it is incumbent upon t
psychiatrist to confirm that disorders such as tumor
malabsorption have been ruled out in severely cachec
patients. Once the diagnosis of AN is confirmed, t
psychiatrist can then turn his/her attention to t
physical abnormalities directly associated with tl
disorder.

Endocrine abnormalities are often seen in AN. Ma
patients with AN have been extensively worked up f
hypothalamic dysfunction. Abnormalities
gonadotrophin secretion not seen in other states
simple weight loss have been demonstrate
Characteristically, basal gonadotrophins are low a
periodic gonadotrophin secretion is attenuated. Both L
and FSH responses to LRF have been demonstrated
diminished, the degree correlating with severity of t
weight loss. The basic problem seems to be lack of LI
priming in the hypothalamus.[3,4] HGH elevatior
temperature regulation problems, and adrenal sterc
abnormalities have been reported in association wi
AN as well.[3] All the above return to normal with weig
gain.

Hypothyroid type symptoms such as cold intoleranc
dry skin, and brittle hair and nails are report
frequently in AN. Thyroid hormone tests are general
low normal in most series. Even in those with low T
TSH is not elevated. The mechanism seems to
decreased peripheral conversion of $T_4$ to $T_3$ also seen
chronic illness, prolonged fasting in the obese, ar
protein calorie malnutrition. If an elevated TSH is see
in an anorectic, a concurrent diagnosis
hypothyroidism should be considered.

Primary or secondary ammenorrhea is see
universally in AN. The interesting aspect of th
complication is that the onset of ammenorrhea, at time
precedes any dieting or weight loss.[5] It is also w
established that achievement of normal body weigl
does not always lead to resumption of normal mense
some degree of menstrual irregularity is frequent
encountered in weight recovered anorectics.[2] Th
psychiatrist must be aware of this phenomenon and b
prepared to deal with its psychological consequenc

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en when the primary disorder is well under control.

Cardiovascular symptomatology has been reported in N. Hypotension and bradycardia of 40 to 60 BPM is mmon.[4] Studies of cardiovascular dynamics show creased blood volume and heart volume proportionate weight loss. These variables increase in direct relation weight gain.[3] Transitory systolic murmurs and tting peripheral edema have also been reported as have matologic defects consisting of leukopenia, anemia d mild thrombocytopenia.[6] Again, these abnormalities nerally return to normal with attainment of normal eight.

The above mentioned physical findings are not life reatening. The following physical complications seen AN can mask life threatening diseases or can emselves lead to very serious consequences. These clude: EKG abnormalities, acute gastric dilatation, fects in renal concentrating ability, and serum ectrolyte disturbances.

EKG abnormalities reported in association with AN clude U waves, lengthening of the QT interval, T wave version, and ST segment depression. While usually ansitory, Thurston cautions that if ischemic EKG anges occur in an anorectic patient other causes such CAD, drugs, electrolyte disturbances, pericarditis, E, congenital heart disease, and increased intracerebral essure must be ruled out.[7]

Though reported quite rarely, acute gastric dilatation n occur following initiation of refeeding in AN.[8,9] onservative treatment with parenteral fluids, asogastric intubation, and a gradual return to normal et is recommended, but the possibility of gastric rforation should be kept in mind. Gastric perforation a surgical emergency and carries a high mortality.

Renal concentrating ability is characteristically creased in AN. Prerenal azotemia may be exacerbated self-induced emesis or diarrhea and is one of the most rious medical complications of this disorder.[3] xcessive vomiting, laxative, and diurectic abuse is well nown to occur in AN. Resulting electrolyte sturbances that have been reported include: yponatremia, hypo- and hyperkalemia, hypo- and yperchloremia, and metabolic alkalosis and acidosis. tanford and Steinberg recommend that "all anorectic atients receive serial serum electrolytes, BUN and eatnine, and arterial blood gas analysis during therapy, ith judicious use of EKG, urinary electrolytes, and her diagnostic studies should they be warranted."[10]

Psychotherapeutic treatment approaches to AN have ried over time and currently vary depending on the rticular orientation of the therapist. No therapist, wever, would deny the necessity of weight gain in ese severely emaciated people.

The first question to be asked is whether weight gain n be accomplished on an outpatient basis or does the tient have to be hospitalized? Most physicians feel ore comfortable with hospitalization to: 1) allow for a orough physical evaluation, 2) separate the patient from an often pathological family situation and, 3) establish conditions for continuing therapeutic alliance.[11,12] Burch points out, however, that a brief admission to a service without special experience in the management of anorexia can create as many problems as it attempts to solve.[13] The anorectic is coercive, deceitful, and can quickly anger and frustrate inexperienced personnel. Alternatives to hospitalization, if separation from the family is desired, include boarding schools and college dorms. Of course, severely emaciated anorectics will have to be hospitalized.

Weight gain itself has been accomplished in numerous ways in hospitalized patients. Historically, some somatic therapies have been tried with the aim of stimulating the anorectic's appetite. These have included chlorpromazine, insulin, vitamin injections, stimulants, antidepressants, and hormone injections.[12,14] While these approaches have proven ineffective, a new somatic therapy is on the horizon. Goldberg has reported that cyproheptadine, a serotonin and histamine antagonist, has not only contributed to effective weight gain, it has led to a remission of other target symptoms (e.g., fear of becoming fat) as well.[15] This is a very new approach and undoubtedly more work on it will appear in future literature.

Another approach to weight gain in patients who refuse to eat has been to take the responsibility out of their hands by either tube feeding or hyperalimentation (TPN). Tube feeding has been used extensively in Great Britain in the past and in the United States by physicians desperate to do something.[12] In behavior therapy, tube feeding has been used as a negative reinforcement.[16] Both tube feeding and hyperalimentation can run the risk of serious medical complications such as pulmonary aspiration, infection, and metabolic disturbances. Pops, a gastroenterologist, suggests reserving tube feedings and TPN for those patients who have: 1) lost greater than 40% of normal body weight, or 2) lost 25% to 30% of normal body weight in less than three months.[3] Maloney and Farrell recommend TPN if the patient has lost greater than 35% of her body weight and has been a previous treatment failure.[17] A relative contraindication to TPN is the likelihood that the patient will manipulate the I.V. line leading to a possible air embolism.

In all, however, the best proven technique to promote weight gain in anorectics is an approach encouraging oral feedings on an inpatient unit with *consistent, sympathetic,* and *patient* personnel.

How much weight should an anorectic gain while hospitalized? Certainly a seventy pound anorectic cannot be expected to return to her premorbid weight of one-hundred and twenty-five pounds while an inpatient. Most physicians are satisfied with a reasonable weight gain, (often used as a bargaining tool for termination of hospitalization), and a return to more rational eating habits. Bruch points out that malnutrition has its own toxic psychological effects and that below a critical weight an abnormal mental state is maintained that is separate from the core symptomatology of AN. While the exact figure for this critical weight is, of course, related to height and body build, Bruch would feel uncomfortable discharging an inpatient at less than 90 to 95 pounds.[13]

One therapeutic approach relies on weight gain alone as a measure of successful outcome. Behavioral therapy, which is carried out in an operant conditioning model, utilizes negative as well as positive reinforcements to encourage eating. The implicit assumption of this model is that through accomplishing gain other negative behaviors will also regress. Behavior modification does effectively lead to weight gain, usually in a briefer hospital stay than other approaches.[8] However, pure behavioral therapy does not include any follow-up psychotherapy other than reinforcement schedules for the family to reward weight gain at home. Many therapists feel that this approach is inadequate to the needs of these patients whose eating behavior, they feel, is a manifestation of much deeper psychopathology. Nonetheless, the behavioral approach does offer a useful technique to promote weight gain in conjunction with other forms of psychotherapy, and is frequently utilized in this manner. It is also easily taught to nursing personnel at facilities such as community hospitals and general psychiatric inpatient units. Bruch, however, feels that the psychological consequences of behavioral therapy can be "disastrous." Based on her belief that the root problem in AN is the feeling of an "all pervasive ineffectiveness" in these patients, she feels that the coercive, controlling nature of behavior therapy makes it, in fact, countertherapeutic.[18]

Bruch, an analyst with a special interest in eating disorders, also objects to a classic psychoanalytic approach to AN. Early psychoanalytic thinking about AN rested on Freud's assumption that impairment in the nutritional instinct was related to the organism's failure to master sexual excitement. This led to the belief (in the 1940's) that AN represented a symbolic manifestation of the fear of oral impregnation. Bruch feels that even today analysts search for oral impregnation fears. She feels that not only is the basic assumption fallacious but that the process of analysis itself is countertherapeutic. Free association requires that the patient relinquish control and assume that the analyst who interprets understands the patient better than the patient understands herself. It is around this issue of self-control and understanding that Bruch feels the root pathology in AN lies.[8] She believes that most primary anorectics share a common developmental history. This "classic" anorectic is an adolescent female from a middle or upper class family. She has always been a good girl, always pleased her parents unlike her rebellious and nonconforming siblings. Then, surprisingly the parents discover that their "good girl" is no longer eating. Soon the child that was formerly "no trouble" becomes the central focus of a tragic family struggle. Bruch postulates that the early conformist, parent-pleas behavior represents a pathological response to challenge of individuation and identity formation. T anorectic lacks a core identity; rather, she lives her life please others. The self-induced starvation, th represents this adolescent's aberrant attempt establish and maintain an identity by virtue of incredible willpower necessary to deny herself any fo whatsoever. (It should be noted at this point that it is at all clear that this "paradigmatic" case reflects the t etiology of AN. Yager points out that many excepti to the above formulation exist; some factors even po to the possibility of a biological basis to the disorde Regardless of this controversy, however, Bruch some concrete suggestions for therapy of a "classic" c of AN. This involves an empathic understanding of illness that is *explicitly shared* with the patient, followed a methodical, step-by-step, supportive and educatio approach that will allow the patient to see that she her own mind, can make her own decisions, and is ind a worthwhile person. Bruch contends that this appro is successful even in the refractory cases frequen referred to her.[8,13]

Crisp, a British psychiatrist, comes from sociobiological/existential perspective and posits etiology of AN in the conflicts surrounding the char of body shape in puberty. The adult body shape a fatness comes to symbolize all the social maturatio problems that these girls' early experience ill equipp them to deal with. Crisp's therapeutic approa attempts to create an *opportunity* for development a change. This is accomplished in an inpatient mil setting utilizing two primary psychotherapists as wel nursing personnel, occupational therapists, so workers and groups.[11]

Bruch and Crisp will involve the family in thera when deemed appropriate. Both recognize the ma contribution that the family situation makes to genesis and morbidity of AN but neither view disease as exclusively symptomatic of family patholo Barcal, on the other hand, describes the use outpatient family therapy not only as efficacious, but circumventing the need for inpatient hospitalization achieve weight gain. His approach, basically is to util the experienced therapist's understanding of individ and family dynamics to quickly define the *central* probl in the family, expecting that identification a clarification of this problem will lead to quick sympt relief in the patient. Barcal recognizes two proble inherent in the approach: 1) the family may be unable sustain the anxiety induced by the crisis approach a discontinue therapy and 2) an inadvertent, dangero and alarming reaction might occur in other fam members as a result of release of affects that have be pent up for a long time.[19]

## Conclusion

When a psychiatrist is referred a case of anore nervosa he/she must first confirm that it is indeed t oper diagnosis. As was mentioned before, the ychiatrist must be comfortable that physical causes of vere emaciation have been adequately considered. The ychiatrist must then be sure that the refusal to eat is ıt founded on psychotic delusions as can be seen in pression, organic brain syndrome, schizophrenia, or polar disorders. Once he/she is sure that the patient is uly an anorectic, (DSM III or Feighner's diagnostic iteria can serve well in this regard), attention should be rned to consideration of the physical complications ıtlined in this paper. Consultations to pediatrics, stroenterology, or internal medicine are often in order this point. When psychotherapeutic intervention is nsidered the therapist may turn then to whichever eoretical foundation works well for him/her, but ould do well to keep in mind factors which Lucas has entified as common to all successful therapeutic proaches. These include: 1) one primary therapist or ɔse-knit team who exert a strong influence over the tient, 2) that the patient is approached as a unique ıman being, 3) that there is continuous long-term volvement with the patient, 4) there is an awareness environmental and family influences and, 5) there is understanding of and treatment directed toward both e psychological and physical components of the sorder.[20]

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*Special Article*

# Medicine in China as Reflected in a Barefoot Doctor's Manual

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**Abstract**

The barefoot doctors of China have become the heroes of television documentaries, exemplars for American medical students, and the subject of many learned dissertations in medical journals. Now one can evaluate the extravagant claims made for medical progress in The People's Republic by allowing these practitioners to speak for themselves in the American translation of the official Chinese paramedical manual. Holistic in approach, this all-purpose health guide for the layman presents alternate modes of therapy without the bias that might be introduced by controlled studies. Besides its insights into Chinese culture and traditional medical theory, the book offers a view of what medicine was like before the advent of science and technology.

Key Words: Delivery of health care; folk medicine; China; socialism.

Disillusioned by the inequity, complexity, expense, and limitations of Western medicine, the world has been inspired by the ideals of the People's Republic of China: 1. Availability of health care in the most remote commune; 2. Application of traditional knowledge; 3. Emphasis on prevention and the role of social and economic factors in health.[1] Once a giant underserved area, China recruited peasants who were dedicated to serving the masses and trained them to treat common medical conditions while continuing to participate in productive labor, thus maintaining a close identification with their patients.[2] The ideology and immense success of this primary care model are widely chronicled in the literature[3-5] and discussed in Family

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and Community Medicine classes in American medical schools. However, the specific methods have previously received only superficial attention. In *A Barefoot Doctor's Manual*, not originally intended for foreign dissemination, the folk and advanced modern remedies are described in detail.[6]

### Traditional and Modern Physiology

True to its purpose of making medicine comprehensible to everyone, the Manual begins with anatomical drawings that identify the waist, the legs, the toes, and so on, explaining in simple terms the functions of each part. "The eyes primarily control vision." "The [sweat glands] sometimes emit an unpleasant odor (called B.O. when highly noticeable.)" A capsular view of physiology from the Western viewpoint is supplemented by an outline of the traditional Chinese theory of the five viscera, the six bowels, and their interactions. "Because the heart and small intestines have a paired relationship, the heat from an overactive 'heart fire' is transferred to the small intestine and is manifested as bloody stools or urine."

The key to the control of infectious diseases was illustrated by a dramatic slide that climaxed our parasitology lectures in medical school: a photograph of a latrine. This concept has not gained widespread acceptance in the Third World, partly because some religions condone filth. The greatest benefit of the Chinese Revolution is to place cleanliness next to patriotism. Water purification, proper disposal of excrement, and elimination of pests such as lice are a patriotic duty. Indeed, the Manual resembles a Communist *Leviticus*. It even proscribes sexual intercourse during the menses.

While some techniques of physical diagnosis, such as listening to the heart, seem to be the same throughout the world, Chinese medicine has some unique ways of distinguishing yin and yang illnesses. The appearance of the tongue and its fur are of particular importance in determining the deficient-solid nature of the disease, and the state of the heat in the body. "If the tongue is dark red and hard . . . this usually indicates the penetration of heat into the heart." Fortunately for the Westerner, a glossary of terms is included, so that one can ascertain that "insufficient central energy" refers to "insufficient energy in the spleen and stomach, termed so because the spleen and stomach are located in the central part of the body" and that "yang deficiency" is "a symptom group describing functional impairment."

### Traditional and Modern Therapeutics

Folk treatment meets the criteria of "quantity, speed, quality, and economy." Ancient techniques are still of great value, including acupuncture, scraping the skin with a copper coin, and blood letting (in contrast to the barbarous Western method, only a small quantity of blood is removed). However, new techniques are constantly discovered through the daring and courageous spirit of the great masses of workers, peasants, soldiers, and health workers. Latest additions to the therapeutic armamentarium include burying sutures in acupuncture points; alkali ingestion; and incision therapy, in which subcutaneous fat is removed and heightened stimulation is achieved by moving a scalpel around in a wound. Meticulous attention is given to worker safety. The heat preparation of the alkali is done outdoors to prevent poisoning by the evolved hydrogen chloride gas. Fine points of technique are carefully explained. Acupuncture needles must be sterilized by soaking in alcohol for five minutes or so, and if a needle breaks because of rust, it should be discarded. Complications of treatment sometimes occur: "When a needle is broken [in a patient] maintain calm composure, for needle to be taken out in time." Just as in sophisticated Western texts, contraindications to therapy are listed. Acupuncture should not be applied to the eyeballs or the testicles or to points where the aorta might be penetrated. Alkali therapy should not be given to those who are already vomiting blood because massive hemorrhage might result.

Following the step-by-step instructions in procedures, the Manual describes common symptoms and illnesses, presenting in an evenhanded manner the alternate modes of therapy: acupuncture, herbal concoctions, or sometimes Western medicines. Several antibiotics, thyroid extract, some vitamins, ephedrine, belladonna, progesterone, and caffeine appear to be available. The clear advantage of the herbal remedies seems to be their versatility. For headache, it is only necessary to differentiate liver yang-dominant headache from kidney deficient headache, whereas with Western therapy one must ascertain the cause of headache from among more than twenty ranging from glaucoma to tuberculous meningitis. Herbs in general are broad-spectrum drugs. Ho-hsieh both loosens up clots and stops bleeding. She-han is good for influenza and poisonous snakebite. Yuan-tan helps both convulsive spasms and body odor.

Posters in China urge the people to be self-sufficient in herbal therapy: "Use yourself creatively (collect the herbs yourself, make the herbs yourself, plant the herbs yourself, and use the herbs yourself)."[7] Despite nearly 400 pages about the morphology and preparation of the herbs, the same advice cannot be extended to Americans. Though the herbs are effective and safe, the preface to the Manual cautions against their use inexperienced herbalists, as adver consequences such as death might resu

Natural remedies of other types th might not occur to a Western imaginati have been developed by the Chine White neck earthworms cure urina retention, eviscerated toads can be us as an umbilical compress in epide encephalitis, and pan-roasted centipe and scorpion benefit epilepsy and rabi All the people are urged to contribute the search for a cancer cure; America who have difficulty obtaining Laetr might try wrapping a live frog in dirt a toasting him over a fire. The pulveriz remains are to be taken in small quantiti three times daily.

American visitors to China can testi to the efficacy of herbal medicine. American pharmacist who felt fai during a description of tradition remedies was promptly provided with cup of unidentified herbal tea, and symptoms gradually remitted.[8]

To a nation seemingly overrun greedy surgeons, the Chinese restraint resorting to surgery is highly instructi Surgery is not mentioned for treatment of boils and felons; appendici is cured with modest doses of penicill peritonitis, as from a ruptured append may respond to daily acupunctu treatment (though a surgeon may summoned if an unspecified number days pass without improvement); a retained placenta is treated with herbs the induction of vomiting instead curettage. The new modern method child delivery evidently precludes possibility that the fetus may prese breech or feet first, or that Caesari section may be needed. Some surgi procedures, reserved for highly train physicians in the United States, a within the ability of the barefoot doct for example, the eight-step vasectomy. cautionary note is added: the practition should be sure that the vas deferens correctly identified, to prevent ligation some other structure. There is an isolat case report of the results of tying off urethra.[9]

### Healthful Lifestyle and Politic Attitudes

For the first time in history, a nati has proclaimed the eradication venereal disease.[1,8,10] While statistics a difficult to obtain, the Manual giv reason to believe that at least no barefo doctor will ever diagnose a case, since t symptoms are not mentione Apparently, sores and discharges do n occur in Chinese men, though t possibility of vaginal discharge acknowledged, due to "certa gynecologic ailments." Simple hygien measures, such as regular changes underwear, are counseled. The gener measures necessary for th

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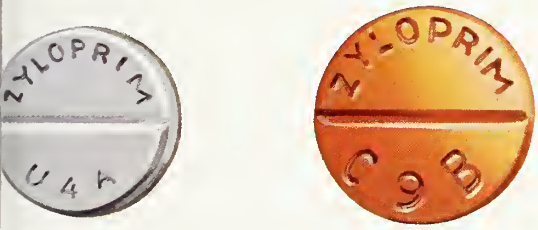

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*Reference: 1981/82 *American Druggist Blue Book*

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# A Tonic for Geriatric Patients

## A pleasant tasting tonic containing iron, vitamins, minerals, and an analeptic. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

**DESCRIPTION** Forty-five milliliters of SU-TON contains the following ingredients Pentylenetetrazol, 30 mg • Niacin, 50 mg • Vitamin B-1, 10 mg • Vitamin B-2, 5 mg • Vitamin B-6, 1 mg • Vitamin B-12, 3 mcg • Manganese (as Manganese Sulfate), 1 mg • Magnesium (as Magnesium Sulfate), 2 mg • Zinc (as Zinc Sulfate), 1 mg • Iron (as Ferric Pyrophosphate, Soluble), 22 mg • Alcohol, 18%

**INDICATIONS AND USAGE** SU-TON contains pentylenetetrazol which may be helpful in the older patient as an analeptic agent when mental confusion and memory defects are present SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency

**CONTRAINDICATIONS** Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients

**WARNINGS** The safety of this preparation during pregnancy and lactation has not been established Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child

**PRECAUTIONS** Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion Caution should be exercised when treating patients with high doses of SU-TON who have heart disease While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia

**ADVERSE REACTIONS** Pentylenetetrazol in high doses may produce toxic symptoms typic
central nervous system stimulants, which act on the higher motor centers and the spinal
Convulsions resulting from this drug are spontaneous and are not induced by external stimuli
usually last for several minutes and are followed by profound depression and respiratory paral
Death has been reported from the ingestion of 10 grams of pentylenetetrazol

**DRUG ABUSE** Drug dependence has not been reported with SU-TON

**OVERDOSAGE** Signs and symptoms of acute overdose may be due principally from overstimulati
the central nervous system and from excessive vasodilatation with resulting autonomic ner
system imbalance The symptoms may include the following vomiting agitation tremors hy
reflexia, sweating confusion hallucinations, headache, hyperpyrexia tachycardia Treatr
consists of appropriate supportive measures If signs and symptoms are not too severe anc
patient is conscious, gastric evacuation may be accomplished by induction of emesis or ga
lavage Intensive care must be provided to maintain adequate circulation and respiratory excha

**DOSAGE AND ADMINISTRATION** One tablespoonful (15 ml) 3 times a day 20–30 minutes be
meals This drug is not for use in children under 12 years of age

**HOW SUPPLIED** Bottles of 473 ml (16 fl oz ) NDC 0524-101

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omplishment included the elimination prostitution and illicit sexual activity, d the identification and treatment of tims.[10] The specific methodology is rtrayed at this time only in fiction. ighbors care for each other, if cessary to the extent of keeping all ght vigils to assure that women whose sbands are away on labor detail do not ceive male visitors.[11]

An important adjunct to all Chinese edical treatment in the past was the ought of Chairman Mao Tse-tung. Dr. i Yu-Hua was cured of choriocar- noma by faith in Mao and emotherapy.[12] The article "Mao Tse- ng's Thought Restores Vision to the ind" appeared in *China's Medicine* in 1968. r prevention of cirrhosis of the liver, e Manual advises "revolutionary termination on the part of liver rhosis patients to fight disease, armed th Mao Tse-tung thought." Treatment mutism is a particularly patriotic nture. "Learning speech is volutionary practice. By organizing ao Tse-tung thought promotion teams participate in production activities and e great revolutionary criticism to learn d enrich speech and the language c.)." The impact of the movement to de- ify Mao remains unknown.

Though the political purity of China s been widely praised by Westerners, e Manual reveals signs that the volution is not yet complete. Despite ogress in securing equality for women, mnants of sexual discrimination rsist. Women are to be assigned to dry ork not wet work during the menses; ht duty not heavy duty during egnancy; and nearby work detail not stant work detail while nursing. nstant vigilance has failed to eliminate e influence of Western imperialist ought: the Manual recommends eding infants powdered milk pplements in cases of marasmus due to adequate milk production by the other.

**nclusions**

The Chinese system assures the portunity for all people to participate in ealth without the "false status nsiderations of professionalism." The vorable reviews of the experiment ritten by the American medical tablishment may seem paradoxical bout 80% of the major articles in the edical literature in the past decade are thusiastic), but actually China is the aternalistic physician's dream. oncompliance is eliminated. The hinese has not only the opportunity but e patriotic duty to take his medicine.

American writers usually acknowledge at the Chinese have paid a price in the rrender of their personal liberty,[13] plying that the price was small mpared with the benefit. The regimentation of a society sufficiently relentless to root out venereal disease has created a health care system whose benefits can be appreciated by reading *A Barefoot Doctor's Manual.*

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# The Drag Race

My "Skylark" was delivered a long time
Ago,
'Twas the first time experience with the
New "dynaflow,"
I found myself reaching for the clutch
And the stick,
But they were both gone, leaving only
The brake!

Early one Monday before a surgical
Session,
I ground to a halt in mid-intersection;
I slipped it in "R" and backed to the line,
Awaiting the green, so I'd be
There on time!

Alongside my right an "88" glided,
From the driver's expression, my choice
He derided;
He looked at me, I looked at him,
The gauntlet was flung, I was annoyed at
His grin!

Two pair of eyes were fixed on that
Light,
The instant it changed, both would take
Flight.
Two pedals were jammed to the floor
Boards that morning,
But the Buick shot *backward* without
Any warning!

I was draped over the wheel and atop of
The dash,
Attempting to maneuver and avoid a
Great crash;
Trying to fathom what happened to
Me,
I had forgotten to move from the "R"
To the "D"!

The Oldsmobile nearly entered the
Ditch,
The driver distracted by this puzzling
Hitch;
He could tell there was no point in further
Proceeding,
When his rear vision showed that I was
Receding!

P. B. Jarrett
Phoenix, Arizona

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# Editorials

## How to Care for a Monster

**Presented at the "Health Care in the 80's—What's Best for America" forum, November 16, 1981. This forum included views from the government, the insurance industry, the chamber of commerce, and hospital managment directed toward an audience interested in health issues. It was presented as a part of the dedication ceremonies for the new out patient facility of St. Joseph's Hospital and Medical Center.**

We have all heard or read about monsters, dragons, vampires and medusa with the snaky locks. These are not reflective of the monsters I wish to speak about today. I fear many of the monsters of which I speak reflect that which faces the health care field today. Who is to say if they are real or imaginary. I can only say they certainly seem real to those who experience them. My list would include market-place competition, alternative health care delivery systems, government regulations, cost containment, hospital expansionism and inter-professional narcissism for a start. Dealing with them demands time for reflection, examination, and ultimate arrival at a conclusion. One might say that dealing with, or caring for, monsters distracts the physician from his primary purpose, the care of his patients. Today I want to reflect primarily on "market-place competition," the economist's solution to today's health care ills and perhaps our biggest monster.

If I were to tell you that for each medical condition there is a "best" treatment and that your doctor should know about it and use it, and that anything else is unnecessary surgery, waste, fraud or underservice, you would or should say *wait just a minute*. If I were to further say that medicine is an exact science, you would not only say *"wait just a minute,"* but you'd be on your feet, and correctly so, for these are gross misconceptions. However, Alain Enthoven, the noted Stanford economist regarded by many as the father of the pro-competitive movement, uses these and other, misconceptions, in his book *Healthcare*, to emphasize the variables and impreciseness of medical care. His conclusions are far different than mine. Let me explain further.

Because the practice of medicine is
inexact science, doctors differ in the te
ordered and treatment prescribed fo
given disease. In many cases there
clearly indicated treatment, but for ot
medical conditions there are seve
possible treatments, each of which n
be legitimate and associated w
different benefits, risks and co
Whether one treatment is better t
another depends, in part, on
interpretation of diagnostic tests,
also, in part, on the patient's values
physician's judgment based on achiev
the most favorable balance betw
benefits and risks. There is no formula
calculating the best "treatment," no cl
dividing line between the "necessary"
"unnecessary" operation. What is "be
in a particular case will depend on
values and needs of the patient, the sk
of the physician and the other resour
available. Medical care differs in ma
ways from the repair of collision dam
to your car. As Enthoven explains, if
have a smashed fender you can get th
bids and make a deal to get it fixed.
can tell when it is fixed. There is
correct "treatment."

It is precisely this infinite differenc
human beings, their uniqueness
disease and health, that speaks most
the needs of what is called a patie
doctor relationship. A relationship wh
the physician, as his patient's advocate
entrusted with the decisions which br
to the patient the skills of science and
in a mix which we call medical care.
quality of that care is defined to maxim
an inclusive measure of patient welf
taking into account the expected gains
losses to attend that care in all its pa
ideally to realize the greatest good tha
possible to achieve in any given situati
at the very least, "to do no harm!"

Enthoven's definition of "good qua
care" is "that which is satisfactory
educated middle class consumers over
long run." In a world where consum
work hard enough just to make e
meet, let alone become knowledgeable
the complexities of medicine, I think t
pro-competitive definition
unacceptable and far below what patie
are entitled to expect. It represent
macroscopic view, an aggreg
accumulation of numbers, statist
analyses, often misleading in th
conclusions, and certainly divorced fr
the day-to-day encounter of patients w
their physicians. Though soci
ultimately will need to place priorities
the use of private resources,
encounters don't suggest that society
ready yet to cry "uncle." Inde
individuals look more often to th
physicians, individually and collective
to maintain the high quality of care b
achieved in the uniqueness of a patie
doctor relationship. Patients, as yet,

t ready to be placed in a numbers game; ey want their care to be individualized; ey expect it to be.

Are financial incentives important? Do ey make a difference in a patient's oice of delivery made or a physician's sponse in service? Of course, they are. Making the decision to use medical care ade free, or almost free by virtue of ird party coverage to consumers is und to lead them to resolve their ubts in favor of care that is more costly an if they paid for it themselves. plied to physicians, the pro-mpetitive theories suggest that in the aditional fee-for-service mode of actice, the incentives are wrongly aced, e.g., more services—more money. f course, physicians are influenced by ancial incentives, but this is not the minant factor. Physicians are ncerned primarily with helping their tients, regardless of costs. Misused centives can apply in any mode of livery. For the prepaid it would be less rvice and more profit. It has been said, hysicians who survive and prosper ust ultimately do what brings in money d curtail those activities which lose oney." I take exception to that atement; indeed, I am offended by it. I lieve physicians in the large, be they orking within a prepaid mode of livery or traditional fee-for-service, are otivated primarily by the desire to treat e patient's illness in the most effective anner with the greatest likelihood of a ccessful outcome.

I have never considered survival in onomic terms the ultimate end or, deed, the measurement by which I uld wish to be judged. A physician's ccess in a practice is measured by the dicated application of his knowledge d skills. His major pursuits should be ward giving service to his patients. The eater monster for him in this onslaught "economic theorists" is to fear that the ues of his services be reduced to mbers, devoid of the factors of quality, rpose, or wisdom.

want to share with you a few of the oblems I find with this market-place mpetition approach through ernative delivery systems (HMO), now darling of government and many onomists.

irst of all, we are not buying shoes, nor we fixing mashed car fenders. rthermore, we aren't comparing dillacs with Fords or fine restaurants h salad bars. We're talking about dical care for you and your family, not ne abstract number. Moreover, I uld prefer to call you *patients*, not nsumers; and I am a *physician*, not a ovider. One fact in business economic ory that most agree upon is that in ler for a competitive market to exist ere must be a knowledgeable consumer. You need to know about what you are buying to make a judgment on the price you pay. Is this a remote possibility when we deal with medical care? I think not. Even I, with 23 years of practice in urology, would be dependent on my personal physician for advice, should I require the decision of care in another sphere, e.g., coronary bypass or hip replacement. This factor alone is sufficient to alert our sense of caution toward the economic theorists and governmental "do gooders" as they wave their wand of magic cost containment tools.

Secondly, under this competitive strategy, two things must go: your freedom to choose a physician and the fee-for-service mode of practice. Why? Because, in the competitive view, the traditional system represents wrong incentives and, hence, "market failure." What does all this mean in "plain English?" It means that many patients have let themselves abuse the system, in fact, over utilize it. This includes some of you, and perhaps even me, because first dollar coverage is often provided for through negotiated health benefits. You need an example? How about the trip to the emergency room for a minor problem that could have waited until the next day. Or a phrase I hear, not infrequently, "Let's shoot the works, Doc, I'm covered." The extent of unnecessary office visits alone is estimated to account for some six percent of total health care costs. Well now, although you may not be totally knowledgeable about health care, you're not dumb, either; wily, yes. You're going to take what they give you, and this, when abused, has contributed to the escalation of health costs. Physicians are not all lily white either. There are those who, lacking discipline, abuse the system, though statistics do not show that physician over utilization has been a significant demand determinate. We need to work together to alter these abuses if escalating costs are to be slowed. You need to become more cost conscious, which is to say, a little less first-dollar-coverage will make you think twice about that possibly unnecessary visit. Your physician needs to take a look at his practice habits and utilize hospitals and services in a more thoughtful fashion. With "proper amounts," as the cookbook says, quality and access will not be altered adversely.

Admittedly, under the present system, incentives can and do lead to over utilization by both you and your physician. However, in the competitive system incentives, guided by economic reward, can be misdirected, in a far more onerous way—that of under utilization, if you will, a rationing of care. Taken to its full meaning, where price is the guiding marker, a tragic lowering of quality care can occur. In my view, the substitution of a competitive system for the now existing fee-for-service system is hardly a fair tradeoff for the patient who loses his freedom to choose a physician, who enters a system more than likely to be impersonal in its care and mediocre in quality, and where the incentive to lower cost is measured in terms of less service.

So that I may not be misunderstood with regard to the prepaid system of delivery of care, two of which are attaining some maturity and success in our own community, these types of practices do save cost. They do it by lower hospital utilization, use of physician extenders, and very strict allocation of resources to the population group they serve. My professional friends serving in this mode are the first to acknowledge that the system works best where the populations they serve and the physicians serving want to be in the system. This speaks to the wisdom of a pluralistic society, and I strongly support it. I think it is time, however, to let the forces work on their own merit. I think it is time for government to be more accountable for the 350 million tax dollars spent since 1973 as seed money to accommodate and foster the growth of these plans. Much of this outstanding loan is lost forever in the 25% to 35% failure rate among these plans. Government policy is now even encouraging struggling plans to convert to "for profit" status so that private industry can be induced into this for-profit health game. I'm not sure just how the nine billion dollars needed for these projected HMO expansion needs are going to lower health costs, but then I'm no economist. A government that is mindful of its fundamental function of protecting life, property, and maintaining the peace does not disrupt the people's health care system. It does not interfere with people's choices and, above all, it does not use its awesome power of coercion to favor one system at the expense of the other.

Finally, a few words about the application of market-place competition among hospitals and industry. Many would agree that the present open-ended method of cost reimbursement to hospitals has led to considerable abuses and may indeed need to be altered. Prospective reimbursement may slow the escalation in cost, but studies I read don't absolutely confirm this fact. For some time there has been a trend among hospitals to expand their corporate images in all directions to include for-profit centers, to evolve multiple institutions, and to go "Madison Avenue" in marketing their expanded services. A hospital is not a product to be sold like a toaster. Money spent thusly should go toward educating the public on how to care for themselves. Unnecessary expansions in service areas are expensive and those costs are borne by all of us when we pay for the care rendered. Even the cost to acquire capital for expansion through indebtedness is passed through onto your daily bill. Is all this flurry of activity necessary? Does it represent a response to community need? Can it be measured in the light of community good? I think we are seeing changes within hospital structure that border on professional narcissism, that are institutionally oriented and devoid of a common community goal. Is management at fault, or are these changing concepts policy which rests with Boards of Trustees? I think we need to pull back from this explosion of expansionism. Let hospital boards reflect upon and redirect their management teams to work in a cooperative spirit as a community resource for health care. Hospitals must reassert their commitment to community service. Their goals must shine in the light of community good. Failure to do so can only lead to further community distrust and confusion. I see market-place competition totally counter-productive to this effort. It encourages friction between medical staff and management, increased fragmentation, and lack of cooperative endeavors. In the process of profit motives, it can even result in dehumanizing patient care. Finally, it can mean bankrupt hospitals, mostly occurring in communities with the greatest need.

It's ironic, perhaps, for medicine to find labor to be its major ally in the resistance to market-place competition. Industry, of course, has a rightful concern as its health benefit costs continue to escalate. As a purchasing agent for employee benefit services, industry views these services in the light of labor costs. Labor, on the other hand, looks at the benefits in equivalent dollars earned. Where is medical care interplaced in this dilemma? You guessed it, in the middle and being squeezed because purely economic forces continue to manipulate it as if it were only a product, with hospitals and physicians being considered vendors. When I hear labor forces are concerned with the potentials of such economic pressure, I can believe it. Is it not in the best interest of both to take a step back and a more detached view? Medical care, if it is to remain good, should not be the pawn of these two opposing forces. In the interest of continued good medical care at a reasonable cost, would it not be wise for industry to relinquish much of its purchasing power role, allowing employees, individually, increased options in the types of care they may choose, including alternative forms as well as fee-for-service. Labor might also wisely accept the fact that first dollar coverage benefits are not the end all to negotiation success. Here's where a little effort directed toward the behavioral aspects of health care could play an immense role in increased productivity. In short, a little more emphasis on "lifestyle" and less on acute care.

So how inevitably do we deal with, or "care for," if you will, these monsters besetting the health scene? I have tried to elicit facts, not myths, which lead me to a conclusion that the forces of normal economics do not readily transfer to the medical care sector. Features dominating the political landscape today demand us to ask the question, "Does government seek genuine improvement in the system, or are its actions motivated solely by its own budgetary aims?" It is only natural that an economic theory for market-place competition be viewed by some as a classical simple solution. There is a distinct difference between competition in the production of goods and in the provision of services, such as those offered in health care. Quality, not price, is the essence of professional service.

Market concepts with competitive elements designed to promote price consciousness among patients and cost consciousness among physicians is already in progress. There is no quick fix, but less governmental interference combined with simple common sense restraints by patients, physicians, hospitals and industry would go a long way toward resolving the problems. Caring for monsters will demand of us our deepest concern and probing investigation for, in the end, the conclusions we reach will simply reflect our value system. As Robert Hucthins once said "if humans don't succeed, maybe God will try rabbits."

Clyde W.Kurtz, M.D.
ArMA President

# Physicians' Fiduciary Responsibilities

The title of this editorial would lead one to believe that it is about legal issues. Rather, this editorial is directed to all physicians who have a vested interest in trying to contain medical care costs but have doubts about their role in this process. As such, it should have a wide appeal judging from the response to these topics at various social and professional meetings where most physicians express discomfort when dealing with the financial aspects of medical care delivery.

Part of this discomfort is justified. As providers of medical care, physicians have been taught to provide the best medical care available to their patient, regardless of financial considerations. D
training, the drawn-out discussio
available diagnostic tools that cou
ordered (even in straightforward
lend themselves to the idea of exce
being equated with completeness.
rare that cost considerations ever en
into these discussions. It is thus,
difficult to change in "midstream,"
have not been taught to deal in
terms and find ourselves in a di
moral dilemma when asked to make
judgments.

However, the percentage of our
national product now spent for
care is exponentially increasing, res
in the need to develop controls. W
for example, the rapid developme
competitive alternative forms of m
care delivery. The prepaid health
plans are now a potent force in m
care in several parts of the United S
A spin-off, the independent pr
associations (IPA's) are now
developed around the cou
Furthermore, further competiti
being developed by the incre
number of health care practitioner
are non-physicians, i.e.,
practitioners, physician assistants,
addition, increased expansion of ho
based facilities will no doubt plac
hospital in the position of being a
care provider in direct competitior
the physician who is non-hc
affiliated.

Since these rapid changes in healt
delivery have been developed as a
of burgeoning health care costs,
incumbent upon physicians st
conventional practice to conside
costs to their patients and society ir
decisions on health care delive
typical situation where such th
should be voiced deals with
introduction of new expe
technology. For example, the
development of a portable i
infusion device has resulted in one
medical clinic in the United States p
most of their diabetic patients on
devices. The proponents of suc
approach state that in the long rur
will diminish costs by keeping pa
healthier and thus reduce the nee
hospitalization. Of course they off
firm proof of this, nor do they offe
proof that controlling blood sugar
benefit the diabetic patient in any sp
way. Granted there is circumst
evidence that would lead one to fee
this approach is correct, however,
data is lacking to firmly establish
one, though, has questioned wheth
should perhaps wait until we have
data before increasing the cost of
for diabetic patients approximately

There are those who say that we s
not be involved in making such deci
However, if we do not get involved

ll be other people who will be making ese difficult decisions. What divine t(s) do they have that we don't? In the velopment of the above noted prepaid alth care systems, physicians have been volved in the financial matters of the livery of health care. If, in fact, ysicians are responsible for providing edical care within a certain monetary amework, they are and will be making rd decisions regarding the availability medical care. Will every diabetic patient an IPA or HMO be placed discriminately on an insulin pump? In attempt to keep costs down, such cisions will have to be made and *are* ing made presently by *physicians.* It is olish to bury one's head in the sand and y that these considerations are not a rt of medical care delivery in the 1980's. ey obviously are and will become an creasingly important consideration. e, as physicians, need to get involved in is process no matter how repugnant it ay seem. As we all know, there are any ways to care for a patient. But if the ttom line results in the patient doing ll, why can't we make value judgments out what is economically realistic. The sets that made us physicians and entists need to be brought to the arket place, and we need to be just as tical of socioeconomic situations as we e about medical care and integrate them en we make decisions regarding health e delivery.

rshall B. Block, M.D.
itor

## e Impact of omputers in Medicine

ome exciting changes in physician ucation and medical practice will no ubt occur in the next decade because of w applications of computer and ctronic technology. Use of computers l expand from their present primary e as an aid to management of office and spital economics and data analysis in search to become a significant terminant in the day-to-day nagement of patients' medical oblems. Such an aid is needed because the fallibility of human memory and inability of any one mind to cope with medical knowledge explosion.

ilot studies have demonstrated the pending reality that the computer as a nsultant may be accessible to the ysician. The computer may display ferential diagnosis of any problem, ovide the latest concepts of chophysiology, suggest the most appropriate tests, and indicate the best treatment course, as well as search the patient's record for incompatibilities and help avoid pitfalls.

Dr. Lawrence Weed of Vermont with his "PROMIS" problem-solving computer program has demonstrated that the computer can improve the quality and efficiency of problem solving for patients. His studies have demonstrated that the "human mind falters in recalling memorized knowledge, integrating new data, formulating problems and generating plans, without appropriate aids to senses and intellectual capacities." Dr. J. D. Myers of Pittsburg, with the insight that we can only recall a small part of what we attempted to memorize in the past, has computerized a data base that encompasses over 500 individual disease profiles and 3500 manifestations of disease in his "CADUCEUS" computer program. He has collected data indicating that the dangers of overlooking important critical hypotheses and other shortcomings of human memory are obviated with the aid of this program.

The most significant problem to be solved before such systems are put at physicians' fingertips is "networking." The cost of putting a computer terminal in every physician's office, linked with central intelligence fed by continuously updated knowledge, may be staggering. Future progress in technology will no doubt remove many current impediments.

If computers are to play a significant part in future medical practice, we need to make certain that medical education curricula provide the necessary background for our students. An orientation questionnaire given to the College of Medicine Class of 1985, prepared by Lisa Leiden, Ph.D. from the Medical Education Office, demonstrated that students are deficient in exposure to computers. Only 53% felt comfortable using them. Half of the class had no computer course in their premedical studies, and only 11% had taken more than a one-semester course.

Fantastic new computerized educational devices such as the optic interactive video disc programs offer exciting opportunities to incorporate computer exposure in many fields. However, a formal computer course may eventually be desirable in medical school.

An intriguing continuing education benefit that could occur from computers is the opportunity for a physician to access personal past experience rather than relying on clinical impressions. Comparison of results to that of others would convert the practice of medicine into a continuing learning experience.

If the future substitutes computers for the imperfect human memory, how should this affect the goals of medical education? In the past there has been a high priority on memorization, with recall testing being the measurement of effectiveness. In the future it may be desirable to concentrate on the understanding of concepts and skills of observation and then test the ability to access information and appropriately solve medical problems, to determine effectiveness.

In the future it will probably be one's ability to interface comfortably with one's ignorance that will make one truly educated.

Robert M. Anderson, M.D.
Associate Dean
Continuing Medical Education
Louis J. Kettel, M.D.
Dean, College of Medicine

# Auxiliary Highlights

## Auxiliary Visits Capitol

ArMA Auxiliary's Day at the Legislature, January 26, was so successful it should become an annual event!

Legislation Committee members Ruth Ogden, Rona Green, Sylvia DeFreitas and Helen Stern worked with ArMA's Kevin Walker to plan a jam-packed day for the 36 registrants.

Auxilians toured the Capitol learning where their own legislators' offices were located, how to sign up for copies of bills and *The Legislative Review*, where to ask about the current status of pending bills, committee agendas, etc. Representative Jane Hull of Phoenix, an Auxiliary member herself, explained how a bill becomes law. Kevin Walker, Associate Executive Director of ArMA, discussed current health-related bills. Attorney Allan Stanton, ArMA lobbyist, talked about the fine art of lobbying.

When the Auxilians gathered in the Senate Gallery, they were introduced to the Senate by Senator John Mawhinney of Tucson. Senate President Leo Corbett met later with some of the group. When Fred DuVal, an aide to Governor Bruce Babbitt, encountered the Auxilians in a hall, he arranged for an impromptu tour of the Governor's wing.

At noon, the Auxilians walked over to the Department of Health Services Building where a conference room had been set aside so they could eat box lunches—delicious ones—prepared by a Phoenix deli. ArMA Executive Director Bruce Robinson, Representative Hull, and Allan Stanton were special guests.

Dr. James Sarn, Director of the

Department of Health Services, then described Arizona's new bill designed to contain costs and provide health care services for the indigent. The Auxilians had lots of questions for him and learned from the frank and open exchange.

Members learned about ArMA's Physician for a Day program, too. Dr. R. W. Griesenbeck of West Sedona was the volunteer doctor that day. His wife signed up for the Auxiliary's Day at the Legislature and Dr. Griesenbeck joined the Auxilians for lunch.

**Auxilians as Volunteers**

Volunteerism is taking on added importance because of the cuts in federal grants and the changeover to block grants, AMA Auxiliary President Isobel Dvorsky said in recent Tucson and Phoenix newspaper and radio interviews. Volunteers are going to have to step in and fill gaps in health education programs and health services which are losing their funding.

County medical society auxiliaries have had more than 50 years of experience in meeting health needs in their communities, she pointed out, creating programs or tailoring national auxiliary projects to meet the specific problem of their areas. Auxiliary members are experts when it comes to setting up immunization campaigns, nutrition education for all ages, poison control projects, home care for the aging, physical fitness programs, stress workshops, public forums about child and wife abuse, training courses on drug prevention and alcoholism.

Volunteer services do not replace the professional services they support, Mrs. Dvorsky continued, but they are important extensions of those professional services. A study in the mid-70's estimated that 37 million volunteers provided services in one year equivalent to 3.5 million persons working full time for that year. If they had been paid the minimum wage, their services would have cost their communities 34 billion dollars.

Mrs. Dvorsky added that Auxiliary members—and other volunteers today—are better educated, more goal-oriented, clear on what they want to do and what they want to gain from their volunteer experience. They not only want to contribute to their community, they want to add to their own sense of worth and well-being. Most Auxiliary members contribute their time, skill and energies to a variety of community organizations. They are capable, experienced, enthusiastic and seek responsibility.

The national auxiliary president was in Tucson in the fall to speak at a luncheon meeting marking the Pima County Auxiliary's 50th year and in Phoenix in January for the AMA's meeting on state legislature and health-related bills.

*Editor—*

The decision to discontinue the scientific portion of the annual state society meeting, marks the end of an era. With the wide diversity of professional interests, it became poorly attended.

The new CME program sponsored by the state society, the first program on "Current Perspectives," recently appeared in Phoenix.

New horizons in the management of insulin for the dependent diabetic was the subject. It was moderately well attended, began without apology, twenty minutes late.

The subject was treated with authority and dispatch. You might well watch for subsequent, "Current Perspectives," as the first of this series set a high standard. It dealt with the practical, clinical applications for every day office practice.

Historically, you may or may not be pleased to know, that Dr. Joslin, an early advocate of strict dietary and blood sugar control of his diabetic patients, his teaching has now been vindicated. Some of you passed through the medical school halls a decade or so ago found that this strict control of diabetes was treated with disdain. Now the evidence suggests that the complications may be delayed, or indeed in some instances there is a reversal of diabetic complications. This hinges upon strict blood sugar control as well as good concurrent control of other medical problems, especially hypertension. The more things change the more they remain the same.

As a one time student of Dr. Joslin, it is a pleasure to report that with this return to his original teaching by the Lords of Academia, he can now cease twirling in his grave.

John W. Kennedy,
Phoenix, Arizona

*Editor—*

Dean Robert Anderson (*Arizona Medicine,* January 1982) decries the physician-student who asks his mentor, "How you treat?" rather than, "How you understand?"

The hapless teacher then must choose: cookbook or education?

Ah, but not so; this is really not a dilemma, but a windfall. The teacher can lead the student through the gate of "How to" into the garden of "Why so." He can use the specific from the student's medical practice to illuminate and to incarnate general principle.

He can, in short, capture and exploit the vaxatious "How to?" by responding: "This is how to. And let me tell you why."

William F. Sheeley, M.D.
Phoenix, Arizona

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# Briefly Noted

New officers of the Apache County ledical Society who will serve during 982 are: **Jack I. Mowrey, M.D.**, akeside, President, and **H. G. Erhart,** I.D., Springerville, Secretary/Trea- urer. **Dr. Mowrey** was also elected elegate to represent the Apache County ledical Society at ArMA's Annual leeting May 20-22 in Scottsdale. lternate delegates are **Arnold H.** **ysterheft, M.D.**, Lakeside, and **Paddy R.** **arver, M.D.**, Show Low.

**Suresh C. Anand, M.D.** of Phoenix articipated recently in a two week study ur of India. **Dr. Anand** and his family, ong with physicians from Arizona, alifornia, and Massachusetts, visited ospitals in Bombay, Jaipur, Agra, and ew Delhi and attended a two-day eeting of the Bombay Medical ssociation.

**Donald R. Nelson, M.D.**, of Lake avasu City assumed his new duties as hief of the Medical Staff at Havasu egional Hospital for 1982. **Charles** **lover, M.D.**, was elected Vice Chief of taff.

**Harry S. Beckwith, M.D.**, Winslow hysician, retired from practice in ebruary after 40 years service in Navajo ounty. Winslow's annual Have a Heart arty dance was dedicated to **Dr.** **eckwith**, with proceeds donated in his ame to the recently completed H. S. eckwith Medical Clinic for the purchase equipment or furniture.

**Gerald F. Giordano, M.D.**, of Tucson has been appointed to a national advisory panel on the use of apheresis in the treatment of disease. The eight-member panel, established by the Council on Scientific Affairs of the American Medical Association, will prepare a report on the state-of-the-art of apheresis in the practice of medicine.

**Martin G. Fronske, M.D.**, received the Arizona Medical Association's Pioneer Sports Medicine Award on February 6 during the Association's 8th Annual Sports Medicine Symposium. **Dr. Fronske's** first experience with sports medicine occurred in 1915 when he gave physical examinations to Flagstaff High School athletes. He was the official team physician for Northern Arizona University from 1938 to 1973, and the NAU Medical Center bears his name. He won the bronze medal for the high jump (5'8") at the 1904 St. Louis Olympics and was recently inducted into the NAU Athletes' Hall of Fame. He began his medical career in 1908 when he cared for loggers in a camp 50 miles from Gallup, New Mexico. The first baby he delivered is now 76 years old, and the last baby he delivered was his own granddaughter, Maria Theresa.

**Robert L. Hagan, M.D.**, of Phoenix was also honored during the Sports Medicine Symposium as the recipient of the 1982 Sports Medicine Award. **Dr. Hagan** has been a member of ArMA's Sports Medicine Section since it was activated in 1970 and was co-chairman of this year's event. He has served as team physician at both Cortez and Washington High Schools.

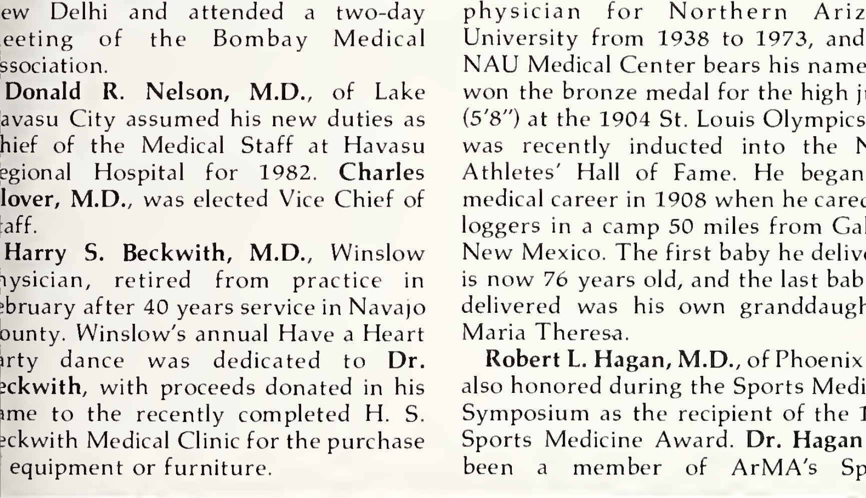
**Communications Seminar**

The Maricopa County Medical Society honored the following individuals at its Annual Meeting and Dinner January 23, 1982: Doctor Joseph Bank Medal to **Joseph C. Ehrlich, M.D.**; Doctor Clarence Salsbury Medal to **Robert E. G. Norton, M.D.**; Doctor Leslie B. Smith Medal to **Kim E. Scott, M.D.**; Ben Franklin Medal to **Linda Alvarez**; and Distinguised Public Service Medals to **Thomas E. Bittker, M.D.**, **Roger G. Boylan, M.D.**, **Mrs. Shirlee Hayes**, **Mrs. Cele Kennedy**, and **Herbert J. Louis, M.D.** **Sue V. Newell**, the Society's head librarian, received the President's Award.

The Yavapai County Medical Society met on February 2, with 30 members present. ArMA President **Dr. Clyde W. Kurtz** and **Kevin Walker**, Associate Executive Director of ArMA, reported on the indigent health care bill and emphasized the need for community planning.

*Physicians' Management*, a practice management magazine with a monthly mailing list of more than 100,000 physicians, is about to begin a regular column that will focus on physicians who have an unusual practice or hobby. You need not be famous to be included. All that is necessary is that you have a hobby that is out-of-the-ordinary or an interesting type of practice. For details, contact **Nikki Mertz** at ArMA.

And let us hear from you about your professional activities, awards of recognition, elections to office, travels, or work in an interesting or unusual area. Items can be sent to Arizona Medicine. Phone calls also welcome.



**Current Perspectives II: OB-GYN**

# THE LEGISLATIVE BEAT

ARIZONA MEDICAL ASSOCIATION
810 WEST BETHANY HOME RD. PHOENIX, ARIZONA

For those who thought that medicine might be given a respite after last fall's special session on indigent and health care cost containment, it is time to think again. The Legislature has reached a new high in the number of bills introduced during the current session, and we certainly got our fair share. Our Legislative Committee has reviewed and analyzed over one hundred pieces of legislation ranging from a bill that would prohibit the importation of skunks into the state to a bill which would rewrite the medical practices act and give the Board of Medical Examiners a new lease on life.

Copies of all legislation and information on the status of bills may be obtained by contacting the ArMA office. A partial list of legislation being monitored by the Association follows:

**SB 1016** would create a Department of Commerce with licensing authority for all health related professions.

**SB 1025** would require the use of a passenger restraint system when transporting a child under the age of four.

**SB 1058** requires that hospitals provide staff privileges for podiatrists. On the House side, HB 2175 is identical in all respects to SB 1058.

**SB 1086**, called the child protection act, would define a person as a born or unborn child at any stage of its development from the moment of conception. The bill also contains sections dealing with the regulation and reporting of abortion procedures, notice to parents, limiting government support for abortion and family planning, and much more.

**SB 1185** deals with prescription authority for registered nurse practitioners.

**SB 1191** is an attempt to shorten and modify the medical liability review panel system.

**SB 1193** would establish a Health Occupations Board of Review which would be a central investigation and hearing agency for health-related professions.

**SB 1199** prescribes conditions for the removal of corneal tissue. On the House side HB 2130 is identical in all respects to SB 1199.

**SB 1245** provides for the regulation of acupuncture by the Board of Medical Examiners.

**SB 1264** deals with health care peer review.

**SB 1267** is an attempt to answer questions raised since the passage of the Arizona Health Care Cost Containment System legislation last fall.

**SB 1385** is the medical practice act and provides for the continuation of the Board of Medical Examiners.

**HB 2020** relates to insurance and would prohibit denial of benefits for services performed by a chiropractor.

**HB 2043** would require school boards to provide for two yearly examinations for scoliosis for pupils between the ages of ten and fourteen.

**SB 2052** is an effort to control "look alike" drugs which contain over the counter ingredients such as caffine, but are made to look like amphetamines and other controlled substances.

**HB 2056** would require that parents be notified of an abortion request by an unmarried minor woman.

**HB 2098** repeals provisions relating to comprehensive state health planning and the certificate of need process. There are many other bills, such as HB 2167, HB 2176, and HB 2403, which deal with comprehensive health planning, certificate of need requirements and rate review.

**HB 2103** would prescribe mandatory instruction in substance abuse in Arizona high schools.

**HB 2117** repeals the sections of law dealing with the licensing and regulation of lay midwifery.

**HB 2202** would continue the Board of Naturopathic Examiners and its licensing authority. HB 2273 would keep the Osteopathic Board alive. The Chiropractic Board would be continued by HB 2326, Podiatry by HB 2325, and Dispensing Opticians by HB 2211.

**HB 2248** would add alprazolam, halazepam, mazindol and propoxyphene to the list of Schedule IV controlled substances.

**HB 2284** would make health records the property of the patient and require that the original records be released to patient upon request.

**HB 2286** would allow certified nu practitioners to prescribe and dispe drugs and perform minor surgery.

**HB 2287** would authorize clini pharmacist practitioners to order clin laboratory tests and to prescribe dispense drugs.

**HB 2329** would create a Joint Legislat Committee on Mental Health Services develop a report on mental hea programs and services in the state.

**HB 2370**, similar to HB 2056, requi parental notification of an abortion to performed on an unmarried unemancipated minor woman.

**HB 2400** would provide statut authority for existing maternal and c health services carried on by Department of Health Services.

Kevin Walker
Associate Executive Director
Arizona Medical Association

Medical
History

# ıysician Medal of
# ɔnor Winners in
# ıe Arizona Territory

hn W. Kennedy, M.D.

The medal of honor has a long, varied,
d distinguished history. The bill
thorizing the Navy Medal was passed
Congress and approved by President
oraham Lincoln on December 21, 1861.
ıis was soon followed by a similar action
ıich authorized the Army Medal and
as signed into law July 12, 1862.

On March 25, 1863, the first Army
edals were awarded, "In the name of
e Congress of the United States." A few
ys later on April 3, 1863, the first Navy
edals were awarded to sailors and
arines.

As time wore on, and after the close of
e Civil War, there was some dispute
oout the propriety of some of the awards
that by October 16, 1916, a board was
ıthorized by Congress to gather all of
e Medal of Honor records, prepare
atistics, classify cases and organize the
vidence which was to be reviewed. By
nuary 1917, all of the 2,625 Medals of
onor which had been awarded up to that
me had been considered by the board
ıd 911 names were stricken from the
st.

One curious incident came up—of
ıese 911 names 864 involved were in one
roup, a case in which the medal had been
ven to members of a single regiment.
he regiment's 27th Maine Volunteer
ıfantry enlistment was to have expired
ıne of 1863. As an inducement to keep
ıe regiment on active duty during a
ritical period, President Lincoln
ıthorized Medals of Honor to any of its
ıembers who volunteered for another
our of duty. The 309 men who
olunteered for extended duty, in the face
f more action and possible death,
ertainly were demonstrating "soldier
ke" qualities and as such were entitled to
he medal under one provision of the
riginal law. But their act in no way measured up to 1916 standards. A clerical error compounded the abuse. Not only did 309 volunteers receive the medal, but the balance of the regiment, which had gone home in spite of the President's offer, were also awarded the medal. There were 47 other scattered cases in which the board felt the medal had not been properly awarded and two of these were William F. Cody, better known as Buffalo Bill, and Mary Walker, a Civil War surgeon, and the only woman ever to receive the honor. Now to get back to Arizona Territory.

During the Indian campaigns, in the far west, the first physician awarded the Medal of Honor, was earned by Assistant Surgeon Bernard J. D. Irwin.

The award stated, "*Place and Date*: Apache Pass, Arizona, February 13-14, 1861. Entered service at New York. *Birth Place*: Ireland. *Date of Issue*: January 24, 1894. *Citation*: Voluntarily took command of troops and attacked and defeated hostile Indians he met on the way." *(Please note that the citation in those days was succinct and to the point and not belabored as it is these days).*

The only other physician to receive the medal while on duty with the Army in the Arizona Territory, was Assistant Surgeon, Leonard Wood. He entered the service from Massachusetts and the citation read: "Voluntarily carried dispatches through a region infested with hostile Indians, making a journey of 70 miles in one night and walking 30 miles the next day. Also for several weeks, while in close pursuit of Geronomo's band and constantly expecting an encounter, commanded a detachment of infantry, which was without an officer, and to the command of which he was assigned upon his own request." The place and date was "An Apache campaign," summer of 1886.

However, this award, recommended by his commanding officer, Captain Lawton, was to hang around Wood's neck like an albatros. It was a good many years before it was finally awarded, not until after the turn of the century when his good friend Theodore Roosevelt was President. By this time Wood had become a General Officer and was commanding troops in the line. He later was to be Chief of Staff, but he lost out to Pershing for the command of the Expeditionary Force in France in World War I.

The Indian Campaign Medals of Honor were awarded in operations which took place between March 25, 1865, and December 30, 1891.

We can find record of only two other physicians who received this award during these campaigns but they were not awarded for action in Arizona. John O. Skinner, contract surgeon of the Army was awarded the medal for action at Lava Beds, Oregon when he "Rescued a wounded soldier who lay under a close and heavy fire during the assault on the Modock stronghold after two soldiers had unsuccessfully attempted to make the rescue and both had been wounded." The second physician, Henry R. Tilton, Major and Surgeon, U. S. Army at Bear Paw Mountain, Montana, was awared the medal when he "Fearlessly risked his life and displayed great gallantry in rescuing and protecting the wounded men." The Army gave nearly 200 awards of this medal during the Indian Campaigns.

The Navy wasn't exactly negligent in their awards during this time; and, it appeared that any man who rescued a shipmate who had fallen overboard, was awarded a Medal of Honor.

But after review by the board in 1916, the standards for awarding the medal became far more stringent. Prior to this period it was unusual for a man to lose his life in the performance of his duties for which he was awarded the medal. From 1916 about thirty percent of the awards were given posthumously.

From the inception of the award of this medal in 1861 until 1968, only nine recipients are listed from the State of Arizona. Doctors Irwin and Wood were the only physicians to be awarded the medal for service in Arizona Territory.

### Reference

*Medal of Honor 1863-1968*. U. S. Government Printing Office, Washington, D.C. , 1968.

# ArMA Reports

**The minutes appearing in this section have been condensed. A complete copy of the minutes of any meeting will be mailed to any member requesting them.**

## AD HOC LONG RANGE PLANNING COMMITTEE

This committee met on January 16, 1982.

The committee reviewed a report on the status of the goals and objectivies established during the workshop of February 28, 1981. During the review and discussion the committee made the following recommendations and/or formal motions.

Instructed staff to develop a report that would indicate which of the of the goals and objectives would be of the most interest or greatest benefit to those involved in various modes of practice, i.e., HMOs, IPs, etc. Upon completion, the organizations would be contacted in a statewide effort to promote membership.

The committee urged the Grievance Committee to meet and to report back to the committee giving their recommendation on accomplishing Objective C(2) under Goal I, i.e., "To increase service to members which might include assisting with third party grievances."

It was determined the status report reviewed by the committee would become a part of its annual report to the House of Delegates.

It was moved and carried that the status report be published, in its entirety, in an upcoming issue of *Medical Memos*, in a manner supporting maximum communication and input from the membership.

It was moved and carried that the President appoint a committee to offer aid and assistance to state specialty societies to facilitate the development of ArMA membership within those societies which would enable them to meet the 51% membership requirement for representation in ArMA's House of Delegates.

It was moved and carried that during the time of solicitation for committee membership, special effort be made to draw volunteers from the various specialty societies throughout the state.

It was moved and carried that a resolution be presented to the 1982 House of Delegates which would allow for the Ad Hoc Long Range Planning Committee to become a permanent committee in the bylaws of the Association, with the committee make-up, frequency of meeting, etc., to be left to the discretion of the Executive Committee.

## EXECUTIVE COMMITTEE

The committee met on January 22, 1982.

Dr. James Sarn, Director of the Arizona Department of Health Services reported on the development of the Arizona Health Care Cost Containment System. He reported that Henry Foley, Ph.D. had been selected to head the new division. The committee membership to formulate the rules and regulations would be completed in the coming week, and the process would begin the first of February. The solicitation of bids would also begin sometime in February. Consultants would be available to provide workshops and individuals would be available to assist those interested in becoming providers under the new program with the adminstrative process. Dr. Michael Clement, Assistant Director of the Division of Family Health Services is presently in charge of interesting providers in the program. He has been traveling the state speaking to various provider groups, and county medical societies. Now they will begin to have larger meetings in which legislators will be participating. The first is tentatively scheduled for February 22 at the Civic Plaza in Phoenix.

The opinion of Counsel was presented to the committee concerning specialty society representation in the House of Delegates.

It was moved and carried to refer the Honeywell/J. B. Rodgers proposal relating to ArMA's heating and air conditioning system and changes required to lower the existing utility bills to the Finance Committee for study and review as to economic feasibilty of the proposal, requesting that the committee provide the Executive Committee with its recommendations at the earliest possible date.

The report of the managment consultant team will be available for the February 19 meeting of the committee.

Correspondence was received from the state of Oklahoma and Perry Stearns, M.D. The committee was given status reports on the Current Perspectives Series and distribution and sale of the brochure "How to Cut Your Health Care Costs."

## LEGISLATIVE COMMITTEE

The Legislative Committee met January 23, 1982.

The following items were discuss Department of Health Servic Legislative priorities; Arizona Hosp Association's legislative report; Sen Bills; House Bills; Sunset Revi quadruplicate prescriptions; medi liability review panels; emergency ins sting treatment and long ran planning.

It was moved and carried to offer act support for the Department of Hea Services Maternal & Child Health and to offer active support for Department's management of to substances bill.

It was moved and carried to activ study the Privacy of Medical Informati bill.

**Senate Bills:**

**SB 1016** — Department of Commer This bill would create divisions of hea care licensing and allied health c licensing. It was moved and carried offer non-support to SB 1016.

**SB 1025** — Child Passenger Restra System. The bill provides for the use passenger restraint systems for childr under four years of age. Dr. Chisho stated that the pediatricians are activ supporting this bill. It was moved a carried to offer active support of 1025.

**S.B. 1037** — Podiatrists, Removi Continuing Education Requirements. was moved and carried to take no acti on SB 1037.

**SB 1038** — Department on Aging. was moved and carried to take no acti on SB 1038.

**SB 1057** — Hazardous Was Management. The committee agre earlier to support the DHS bill. It w moved and carried to take no action SB 1057.

**SB 1058** — Hospital Privileges f Podiatrists. A detailed history of the b was presented and the committee w brought up-to-date one the Hous action on the bill. The committee als discussed the current ArMA positio paper on podiatry. It was moved an carried to offer active non-support to S 1058 and to support the position of th Arizona Hospital Association.

**SB 1059** — Regulation of Ambulanc Services. It was moved and carried take no action on SB 1059.

**SB 1061** — Home Day Care Healt Registration. It was moved and carrie to actively study SB 1061.

**House Bills:**

**HB 2020** — Insurance Benefits fo Chiropractic Services. It was moved an carried to offer active non-support to H 2020.

**2043** — Examination of Pupils for oliosis. The committee objected to the guage giving Chiropractors the ponsibility along with physicians for ining individuals in proper aminaton procedures. It was moved d carried to offer active non-support HB 2043.

**2052** — Look-alike Drugs. The mmittee discussed the look-alike ıgs in detail bringing up several pros d cons of this bill. It was moved and rried to actively study HB 2052.

**2056** — Abortions; Notice to rents. The committee discussed this in two parts: Supporting the concept this bill, and the need for changing the rding of the bill to clarify "reasonable ort." It was moved and carried to ovide general support to HB 2056.

**2093** — Drug Paraphernalia. It was oved and carried to take no action on 2093.

**2098** — Elimination of Health anning. It was stated that the position the Arizona Hospital Association is to pose this bill and that they will offer a which conforms with their policy on alth planning. The general feeling of e committee, however, was that health anning has not worked to hold down sts and may even be responsible for me increases. It was moved and rried to offer active support for HB 98.

**3 2103** — Instruction in Substance use. It was moved and carried to ovide general support for HB 2103.

**3 2117** — Midwifery Repeal. The mmittee felt that the bill requires more alysis. It was moved and carried to tively study HB 2117.

**3s: 2003, 2034, 2041, 2096, 2053, 2101, d HCR 2002** — Driving Under the fluence of Alcohol or Drugs. The mmittee decided not to take any tion on the bills which deal with iving under the influence of alcohol or ugs at this time. It was moved and rried to take no action on HBs: 2003, 34, 2041, 2096, 2053, 2101. and HCR 02.

**3s: 2040, 2047 and HCR 2003** — ederal Funds, Legislative Approval. . Flynn briefed the committee on the lls which cover federal funds. It was oved and carried to take no action on 3s: 2040, 2047, and HCR 2003.

**B 2130** — Removal of Corneal Tissue. was moved and carried to offer general ipport for HB 2130.

**B 2145** — Solid Waste Management. ne committee agreed earlier to support e DHS bill. It was moved and carried to ke no action on HB 2145.

**B 2167** — Rate Review. It was moved nd carried to take no action on HB 167.

**HB 2176** — Health, CON Exemptions; Authorized Local Agencies. It was moved and carried to take no action on H.B. 2176.

**HB 2187** — Prescription-Only or Dangerous Drugs: Minors. It was moved and carried to actively study HB 2187.

**HB 2223** — Nursing Care Institutions; Service Delivery Requirements. It was moved and carried to take no action on HB 2223.

**HCR 2010** — Right to Life; Constitutional Convention. It was moved and carried to take no action on HCR 2010.

It was moved and carried to support the recommendation of the Health Manpower committee that the Naturopathic Board of Examiners and Licensing Authority be repealed during the next session of the legislature.

It was moved and carried to offer active non-support for quadruplicate prescriptions bills.

It was moved and carried to support the recommendation of the Professional committee that any legislation concerning emergency insect sting treatment should not be pursued.

## BOARD OF DIRECTORS

The Board of Directors met on January 23, 1982.

**Reports** — Activity reports from both the ArMA Auxiliary and ArMPAC were presented.

**Board of Directors** — The following items were presented under this section: BOMEX—Recommendations for Future Vacancies; Future House of Delegates' Meeting Dates; 1982 House of Delegates Composition—Specialty Societies; AMA Appointments; Medicine/Business Coalition Update; and Resolution 6-81.

The following motions were made: It was moved and carried that the Arizona Medical Association recommend to the Governor of the state of Arizona the names of John T. Clymer, M.D., Paul B. Jarrett, M.D., Albert Rosenblatt, M.D., and Richard D. Zonis, M.D., and Charles F. Zukoski, M.D., requesting that the same be considered by the Governor in filling any vacancies which might arise by reason of the expiration of the term of Arthur N. Lindberg, M.D. on March 1, 1982, or Phillip Z. Saba, M.D. on July 1, 1982.

It was moved and carried approving the following dates for the Annual Meetings of the House of Delegates for the years 1983, 1984 and 1985: 1983, Friday and Saturday, May 20-21; 1984, Friday and Saturday, May 18-19; 1985, Friday and Saturday, May 19-20. With the selection of the hotel site to remain the responsibility of the Executive Committee and the time schedule to remain as presently being followed, i.e., a social function the Thursday evening prior to the opening of the House of Delegates and the following format for Friday and Saturday:

6 A.M., Friday, Executive Committe Breakfast Meeting
8 A.M., Friday, Board of Directors' Meeting
10 A.M., Friday, House of Delegates' Meeting
2 P.M., Friday, Amendments Reference Committee
2 P.M., Friday, Resolutions Reference Committee
7 P.M., Friday, Reception
8 P.M., Friday, President's Banquet
6:30 A.M., Saturday, Maricopa County Caucus
6:30 A.M., Saturday, Pima County Caucus
8 A.M., Saturday, House of Delegates Meeting
12 Noon, Saturday, Board of Directors Meeting

It was moved and carried to grant representation in ArMA's House of Delegates to the American College of Physicians as the society representative of the Internal Medicine specialty.

It was moved and carried to endorse and submit to the AMA the recommendation of Robert M. Anderson, M.D. and Anthony Vuturo, M.D. for appointment to the AMA Council on Medical Education or its appropriate committees.

It was moved and carried that Dr. Samuel L. Pallin be notified that the Board of Directors takes note of his concerns regarding the procedure known as "Radial Keratotomy" and that, should he desire, he can personally prepare and submit a resolution regarding that procedure to the House of Delegates for consideration by it during meeting in May 1982.

**Executive Committee** — The following items were discussed under this section: Ratification of Minutes; Membership Classification Changes Approved from Maricopa, Pima and Pinal County Medical Societies.

The following motion was made: It was moved and carried to accept and ratify the minutes of the Executive Committee meeting held on October 24, 198, following the amendment of those minutes in the following manner: That the action of the Executive Committee regarding execution by lethal injection be changed to read as follows: "It was moved and carried that the Executive Committee of the Arizona Medical Association endorses the appeal to be submitted to the Governor of Oklahoma to prevent execution by the method of lethal injection by a physicians and that such endorsement be conveyed by letter to the Oklahoma State Medical Association."

It was moved and carried to accept and ratify the minutes of the Executive Committee meeting held on November 20, 1981.

**AMA Delegation Report** — The report of the AMA Interim meeting was received from the Senior Delegate, Dr. Sattenspiel.

**Articles of Incorporation & Bylaws Committee** — The following items were discussed under this section: Summary of Proposed Bylaws Changes; Resolution No. A-1-82; and, Student Membership.

The following motion was made: It was moved and carried to receive for information only the proposed changes to the Association's bylaws as set forth by the Articles of Incorporation and Bylaws Committee in Resolution No. A-1-82, which such committee will submit to the House of Delegates for consideration during its May 1982 meeting.

**Finance Committee** — The Board was advised the annual CPA audit is being conducted and the report will be available at the next meeting, March 27, 1982.

**Governmental Services Committee** — The following items were discussed: Repeal of the National Health Planning and Resources Development Act of 1974, As Amended; and the Position Paper on Health Planning.

The following motions were made: It was moved and carried that the Arizona Medical Association support the postion of the AMA on the repeal of the National Health Planning and Resources Development acto of 1974, as amended (HR 4554) and that Arizona's congressional delegation be so notified.

It was moved and carried to approve and adopt the position paper on Health Planning attached hereto, marked Exhibit "A", and by this reference incorporated herein and that such position paper be distributed to county societies and various health planning agencies as determined by the Governmental Services Committee. (*A copy of this report can be obtained from the ArMA office).*

**Health Manpower Committee** — Under this section report A of the AMA Council on Medical Education adopted by the AMA House of Delegates relating to education of limited license practioners was presented to the Board.

**Medical Education Committee** — The 1979 and 1980 CME delinquents were brought to the attention of the Board. The following motion was made: It was moved and carried that all action against 1979 and 1980 CME delinquent members be deferred at this time.

Additionally, it was moved and carried that the resolution relating to mandatory continuing medical education submitted during the 1981 meeting of the House of Delegates be brought back to the Board of Directors at its next scheduled meeting with whatever changes that would be required to bring ArMA's requirements into line with those of the Board of Medical Examiners.

Correspondence was received and the use of the meeting rooms in the Association's office was discussed. The request of John F. Kahle, M.D. concerning the WPPA was discussed as was the status report of the Ad Hoc Long Range Planning Committee.

The following motions were made: It was moved and carried that the report on the 1981 meeting room use in the Association's building be referred to the Finance Committee for its review and study and any recommendations it might feel appropriate.

It was moved and carried to refer the request of John F. Kahle, M.D., President of the Western Physician's Purchasing Association, dated January 22, 1982, asking for the continued endorsement of the WPPA program by the Arizona Medical Association to the Medical Economics Committee and the Finance Committee for their review, consideration and recommendation to the Board.

## Future Medical Meetings

The following institutions and organizations ha been accredited for their continuing medi education programs by the Liaison Committee Continuing Medical Education

Arizona Chapter, American Cancer Society
Arizona Heart Institute
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona
Lung Association
Walter O. Boswell Memorial Hospital
Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoe
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program
(THMEP) Tucson
University of Arizona College of Medicine,
Tucson
Veterans Administration Medical
Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations abo produce a variety of continuing medical educati programs. Each accredited institution ar organization is responsible for designating which these programs meet ArMA's requirements f Category 1 credit. Physicians who participate programs which are designated Category 1 accredited institutions will receive Category 1 cre toward the ArMA Certificate in CME and the AMA Physician's Recognition Award.

## MARCH

**1st Symposium on Hematologic Malignancies**
March 14-21, 1982. Keystone Lodg Colorado. Sponsor: U of A College Medicine. Contact: Office of Continuin Medical Education & Outreach, U of A Healt Sciences Center, Tucson, AZ 8572 Approved for hour per hour Category credit.

**Current Perspective III: Pediatrics**
March 17, 1982. Arizona Medical Associatio Office, Phoenix. Sponsor: Arizona Medica Association. Contact: Arizona Medica Association, 810 W. Bethany Home Road Phoenix, Arizona 85013. Approved for 3 hours of Category 1 credit.

**New Horizons in Medicine**
March 18-19, 1982. Good Samaritan Hospita Sponsor: Good Samaritan Hospital, Di Continuing Medical Education. Contact Imre Sandor, M.D., Chairman, CM

mmittee, Good Samaritan Hospital, 1033 McDowell Road, P.O. Box 2989, Phoenix, 85062. Approved for 10 hours of Category redit.

**uries of the Hand — Acute Care d Rehabilitation**
ırch 18-20, 1982. La Posada Resort, oenix. Sponsor: American Society for rgery of the Hand. Contact: ASSH, 2600 uth Parker Road, Ste 132, Aurora, lorado 80014. Approved for 16 hours of tegory 1 credit.

**agnosis and Therapy of Cardiac Disorders**
ırch 18-20, 1982. Scottsdale Hilton. onsors: ArMA and Postgraduate Medical urm, Inc. Contact: Daniel S. Duick, M.D., D. Box 32567, Phoenix, AZ 85064. proved for hour per hour Cagetory 1 edit.

**ird Annual Colloquium e Tactile System, Implication for cial and Emotional Development**
ırch 19-21, 1982. Caravan Inn, Phoenix. onsor: Continuing Education Program of nerica and The Center for Neurodevelopental Studies, Inc. Contact: Nancy Henry, e Center of Neurodvelopmental Studies, :., 4248 E. Campbell, Phoenix, Arizona 018.

**Annual Urological Seminar**
arch 20-21, 1982. Alamos Resort, ottsdale. Sponsor: Maricopa County eneral Hospital. Contact: Office of CME, CGH, 2601 E. Roosevelt, Phoenix, Arizona 008. Approved for 14 hours of Category 1 edit.

**struction Course — Cataract Extraction & traocular Lens Implantation**
arch 24-26, 1982. Phoenix, Arizona. onsor: The Eye Foundation. Contact: nald W. Barnet, M.D., 421 N. 18th Street, e 105, Phoenix, AZ 85006.

**itrition Concerns in Gerontology for the 's**
arch 25, 1982. Phoenix, Arizona. Sponsor: entral Arizona District Dietetic Assocation. ontact: Ling Patty R.D., Bureau of Nutrition ervices, 3424 N. Central Ave., Ste 300, oenix, AZ 85012.

**Luke's Focus '82, Thoracic Medicine**
arch 29-31, 1982. Los Alamos Hotel, ottsdale. Sponsor: St. Luke's Hospital. ontact: Christine Campbell, Meeting anner, St. Luke's Hospital Medical Center, 5 North 18th Street, Phoenix, AZ 85006. proved for hour per hour Category 1 edit.

## APRIL

**izona Chest Symposium**
oril 1-3. Doubletree Inn, Tucson, Arizona. onsor: U of A College of Medicine. ontact: Office of Continuing Medical ducation and Outreach, U of A Health ciences Center, Tucson, AZ 85724. proved for hour per hour Category 1 edit.

**The Psyche, The Soma and The Heart**
April 3. Arizona Biltmore, Phoenix. Sponsor: St. Luke's Hospital and Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital & Medical Center, 525 N. 18th Street, Phoenix, AZ 85006. Approved for 7 hours of Category 1 credit.

**Malignancy**
April 7. Arizona Health Sciences Center. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Educaiton and Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider Course**
April 14-16, 1982. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., ArMA. Contact: Bevery Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for for 21 hours of Category 1 and Recertification course approved for 13 hours.

**Pan American Cataract & Intraocular Lens Symposium**
April 17-19. Scottsdale Hilton. Sponsor: American Society of Contemporary Ophthalmology and the Sight Foundation. Contact: The Sight Foundation, Inc., 10503 Thunderbird Blvd., Ste 9, Sun City, AZ 85351. Approved for 16 hours of Category 1 credit.

**Training in Structural Family Therapy**
April 17-21, 1982. Sponsor: Philadelphia Child Guidance Clinic and Arizona Family Learning & Communications Center. Contact: Arizona Family Learning & Communications Center, Metro Medical Plaza, Ste B403, 3201 W. Peoria Ave., Phoenix, Arizona 85029. Approved for Category 1 credit on an hour per hour basis.

**7th Annual Update Primary Care**
April 20-24. Arizona Health Sciences Center, Tucson. Sponsor: U of A College of Medicine. Contact: Office of Continuing Medical Education and Outreach, U of A Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Ultrasound for Clinicians**
April 24-25. Doubletree Inn, Scottsdale. Sponsor: American Institute of Utrasound in Medicine, Phoenix, Ultrasound Society, and American Acedemy of Family Physicians. Approved for 8 hours of Category 1 credit.

**Southwestern Cardiac Symposium**
April 30-May 1. Hyatt Regency, Phoenix. Sponsor: St. Luke's Hospital and Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital & Medical Center, Phoenix, AZ 85006. Approved for hour per hour Category 1 credit.

## MAY

**Advanced Cardiac Life Support Recertification/Provider Course**
May 13-15, 1982. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affilate of the Amer. Heart Assoc., ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Clinical Seminar Series "Trauma"**
May 15, 1982. Phoenix. Sponsor: Univeristy of Arizona College of Medicine. Contact: Office of Continuing Medical Education and Outreach, U of A Health Sciences Center, Tucson, Arizona 85724. Approved for hour per hour Category 1 credit.

## JUNE

**Desert Samaritan Hospital—Hawaiian CME Meeting**
June 19-26. Kauai, Hawaii. Sponsor: Desert Samaritan Hospital. Contact: Office of CME, Betty Wood, Desert Samaritan Hospital 1400 S. Dobson Road, Mesa, Arizona 85202. Approved for 20 hours of Category 1 credit.

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doctors Hospital, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

**Office Psychiatry for the Primary Provider**
2nd Monday of month, 4811 N. 7th Street, Phoenix, AZ. Sponsor: Arizona Health Plan. Contact: T.R. Bittker, M.D., Box 5000, Phoenix, AZ 85010. Approved for Category 1 credit.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Phoenix Psychiatric Council. Contact: James E. Campbell, M.D., 5051 N. 34th St., Phoenix, AZ 85018. Approved for 2 hours Category 1 credit.

**Monthly Meeting of Tucson Radiologists**
Last Tues. of month. Plaza International, Tucson, AZ. Sponsor: U of A Medical Center, Dept. of Radiology. Contact: Irwin M. Freundlich, M.D., U of A Health Sciences Center, Dept. of Radiology, Tucson, AZ 85724. Approved for 2 hours Category 1 credit.

**Review of Forensic Pathology Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix: 1st Tues.—Phoenix Indian Hospital, 2nd Tues.—Maricopa County Hospital, 3rd Tues.—Good Samaritan Hospital, 4th Tues.—St. Joseph's Hospital. Sponsor: Maricopa County Hospital (Phoenix Hospital's Affiliated Pediatric Program). Contact: J. Kipp Charlton, M.D., 2601 E. Roosevelt, Phoenix, AZ 85008. Approved for 1 hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,000, Phoenix, AZ 85064. Contact: Ravi Koopot, M.D.

**Clinical Conference**
**Cardiovascular Medicine**
Third Tues., 5:15 p.m., second floor classroom

## ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 85008. Contact: Arnold L. Kendall, M.D.

**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. Rm., Contact: Dr. Conger & Staff

**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Services Bldg., Conf. Rm.

**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. Conf. Rm.

## BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St Joseph's Hospital & Medical Center. Contact: John R. Green, M.D. Approved for 1 hour Category 1 credit.

**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.

**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and third and 5th, Eighth Floor Conference Room.

**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurology conference room.

**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.

**Neuro-opthalmology Conference.**
Weekly, 7:30 a.m., 8th floor conference Rm.

**Neuropathology of Gross**
**Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.

**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conference Rm.

**Neuropathology or**
**Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conference Rm.

**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference Rm.

**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, ED.D., Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, July, Sept. & Nov.

**Tumor Board**
Last Thursday of the month, 12 Noon, Educ. Center Classroom I & II, May, July, Sept, & Nov.

**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: T. F. Reid, Jr., M.D.

**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for category 1 credit.

**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West End.

**Clinical Conference — Dept. of Medicine**
Weekly Thurs., 12:30-1:30 p.m. Buffet Lunch, Grande Rm.

**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.

**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2

## DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.

**Physicians Continuing Education Program**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Sept. and December) Contact: R. Grossman, M.D

**Surgical Department Meeting**
3rd Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for category 1 credit.

**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.

**Clinical Conferences**
Weekly Tuesdays, 12:30 p.m., Tollefson R

**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf. R

**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf. R

## GOOD SAMARITAN HOSPITAL

1033 East McDowell Rd., Phoenix, Contact: W. J. Howard, M.D. Approved category 1 credit.

**Anatomical Path. & Cytology**
Weekly, Mondays 4:00-5:00 p.m., S-4 C Rm.

**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., West Rm

**Monday Noon Conference**
Weekly, 12:00-1:00 p.m. R-2 Conf. Rm.

**Mortality/Morbidity, Surgery Comm.**
2nd Monday, 11:30-2:00 p.m., West Rm.

**Obstetrical Section Conference**
1st Monday, 12:30-1:30 p.m., West Rm.

**Pulmonary Disease Grand Rounds**
Weekly, 12:00-1:00 p.m., D-5 North

**Family Practice Conference**
Weekly, Tuesday, 12:00-1:00 p.m., Fa Practice Conf. Rm.

**Pediatric Grand Rounds**
3rd. Tuesday, 7:30-8:30 a.m., Contact: Pa Bergeson, M.D.

**Phoenix Plastic Surgery**
**Residency Conference**
Weekly, 5 p.m.-6 p.m., Education Buildin Contact: Robert McGregor, M.D.

**PM & R Noon Inservice**
2nd & 4th Tuesday, 12 Noon, R-2 Conferen Rm.

**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., West R Contact: John A. Bruner, M.D.

**Combined Cardiovascular & Family Pract Conf.**
Ist, 2nd, & 4th Wed., 12:00-1:00 p.m., D North.

**Learning Disabilities**
Weekly, 10:30-12:30 p.m., R-2 Conf. Rm.

**OBGYN Dept. Review & Statistics**
Weekly, 12:30-3:00 p.m., OBGYN Conf. R

**Gynecological Pathology**
Weekly, Thursday, 1:00-2:00 p.m., S-4 Co Rm.

**GI Radiology Conference**
1st Thursday, 12:00-1:00 p.m., F15 Radiology Conf. Rm.

**Phoenix Ultrasound Soc. Meeting.**
Medical Education Building, Contact: Ben Ora

**Neurology Grand Rounds**
Weekly, Thursday, 9:00-10:00 a.m., D North.

**Surgical Grand Rounds**
Weekly, 7:00-8:30 a.m., Education Buildin Contact: Dr. Gilsdorf

**Tumor Treatment Planning Conf.**
2nd & 4th Thursdays, 12:00-1:00 p.m., F1 Radiology

**Joint Tumor Gyn Conference**
2nd Friday, 12:30-1:30 p.m., West Rm.

**Medical Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., West Rm.

**Neuropathy Conference**
Last Friday, 1:15-2:15 p.m.,,S-4 Morgue.

**Psychiatry Grand Rounds**
Weekly Friday, 11:30-1:00 p.m., East Rm.

## Phoenix Baptist Hospital and Medical Center

presents

# CRITICAL CARE SHOCK SYMPOSIUM

for physicians, nurses, paramedics, physician assistants,
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Gain an in-depth knowledge of the aspects of shock syndrome. Special emphasis will be placed on understanding and recognition of shock and the differentiation of types of shock.

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Edward Genton. M.D., F.A.C.P., F.A.C.C., Hamilton, Ontario, Canada
Andrew S. Wechler, M.D., Durham, North Carolina

April 29–30, 1982
Ramada Renaissance Hotel / Phoenix, Arizona

For further information contact:
Sharon Luczu, Allied Health Coordinator
Phoenix Baptist Hospital/6025 N. 20th Ave./Phoenix, Az. 85015
(602) 249-0212, ext. 2790

**PHOENIX BAPTIST HOSPITAL AND MEDICAL CENTER**

6025 North 20th Avenue/Phoenix, Arizona 85015

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.

**Medical Conference**
Weekly, 12:30 p.m., Contact: Chief Medical Resident.

**Surgical Connference**
Weekly, Mondays, Contact: R. Fischer, M.D.

**Medical Conference**
Weekly, Monday, 12:30 p.m.

**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.m., Contact: J Wurzel, M.D.

**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chief Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.

**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.

**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.

**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz Room

**Obstetrical Problem Conference**
Weekly Tuesday, 7:30 a.m., Yavapai Rm.

**Orthopedic Conference**
Weekly Tuesday, 7:30 a.m., Santa Cruz Rm.

**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.

**Urology Discharge Planning Conference**
Weekly, 11:30 a.m., Station 42

**Hand Surgery Conference**
Weekly Wed, a.m., Santa Cruz Rm.

**Neurosurgery Discharge Planning**
Weekly Wed., 1:30 p.m., Station 42.

**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.

**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental Health Annex, Rm. 1346.

**Surgery Conference**
Weekly Wed., 7-8 a.m., Surgical Dept.

**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.

**Cardiology Conference**
Weekly Thurs., 2 p.m., Santa Cruz Rm.

**OB/GYN Resident Conference**
Weekly Thurs., 12 p.m., Yavapai Rm.

**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Rm.

**OB/GYN Surgical Pathology Conf.**
Weekly Friday, 7:30 a.m., Yavapai Rm.

**Orthopedic X-Ray Conference**
Weekly Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: Daniel J. Kuntz, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015. Contact: Leonard M. Lapenson, M.D., Approved for Category 1 credit.

**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.

**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for category 1 credit.

**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.

**Clinical Staff Teaching Conference, Rm. A.**
Wed. Weekly, 8:00 a.m.

**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact: N. Wendell Tood, M.D.

**Family Practice/Emergency Room Teaching Conference**
Thursday Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.

**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.

**Clinical Conferences**
Weekly Tuesday, 12:30 p.m., Kiva Conference Rm.

**Tumor Board Conference**
Weekly Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.

**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge

**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge

**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge

**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge

**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge

**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge

**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge

**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Loung

**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Loung

**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Loung

**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Loun

**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Loun

**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 850 Contact: Joseph C. White, M.D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Fl Conf. Rm.

**Genetics Conference**
Weekly Monday, 12:30 p.m., Pediat Department.

**Pediatric Rounds**
Weekly Monday, Wed. & Friday, 10:30 a. Pediatric Department.

**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Ki Charlton, M.D.

**ECG Conference**
Weekly Tuesday, 12:30 p.m., Pediatr Department.

**Medical Grand Rounds**
Weekly Wednesday, 8 a.m., 1st Floor Co Room.

**Visiting Professor Formal Presentation**
Weekly Thursday, 8 a.m., PIMC

**Visiting Professor Informal Presentation**
Weekly Thursday, 9:30 a.m., 1st floor Co Rm.

**Visiting Professor Formal Presentation**
Weekly Thursday, 12:30 p.m., PIMC

**Nephrology Conference**
Weekly Fridays, 12:30 p.m., Pediatr Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contac Eric G. Ramsay, M.D. Approved for Catego 1 credit.

**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact: Wr Moteforte.

**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact: Ki Sowards.

**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.

**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contact: Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ, Contac Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly Monday, 12:15 p.m., Auditorium

**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditoriu

# First Class
# First Aid

- Broad-spectrum antibacterial
- Handy applicator tip

**DESCRIPTION:** Each gram contains: Aerosporin® (Polymyxin B Sulfate) 5,000 units, bacitracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs; in tubes of 1 oz and ½ oz and 1/32 oz (approx.) foil packets.

**INDICATIONS:** *Therapeutically* (as an adjunct to systemic therapy when indicated), for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection. *Prophylactically,* the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

**CONTRAINDICATIONS:** Not for use in the eyes or in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

**WARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

**PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

**ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

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Motrin®
ibuprofen, Upjohn
600 mg Tablets

Upjohn

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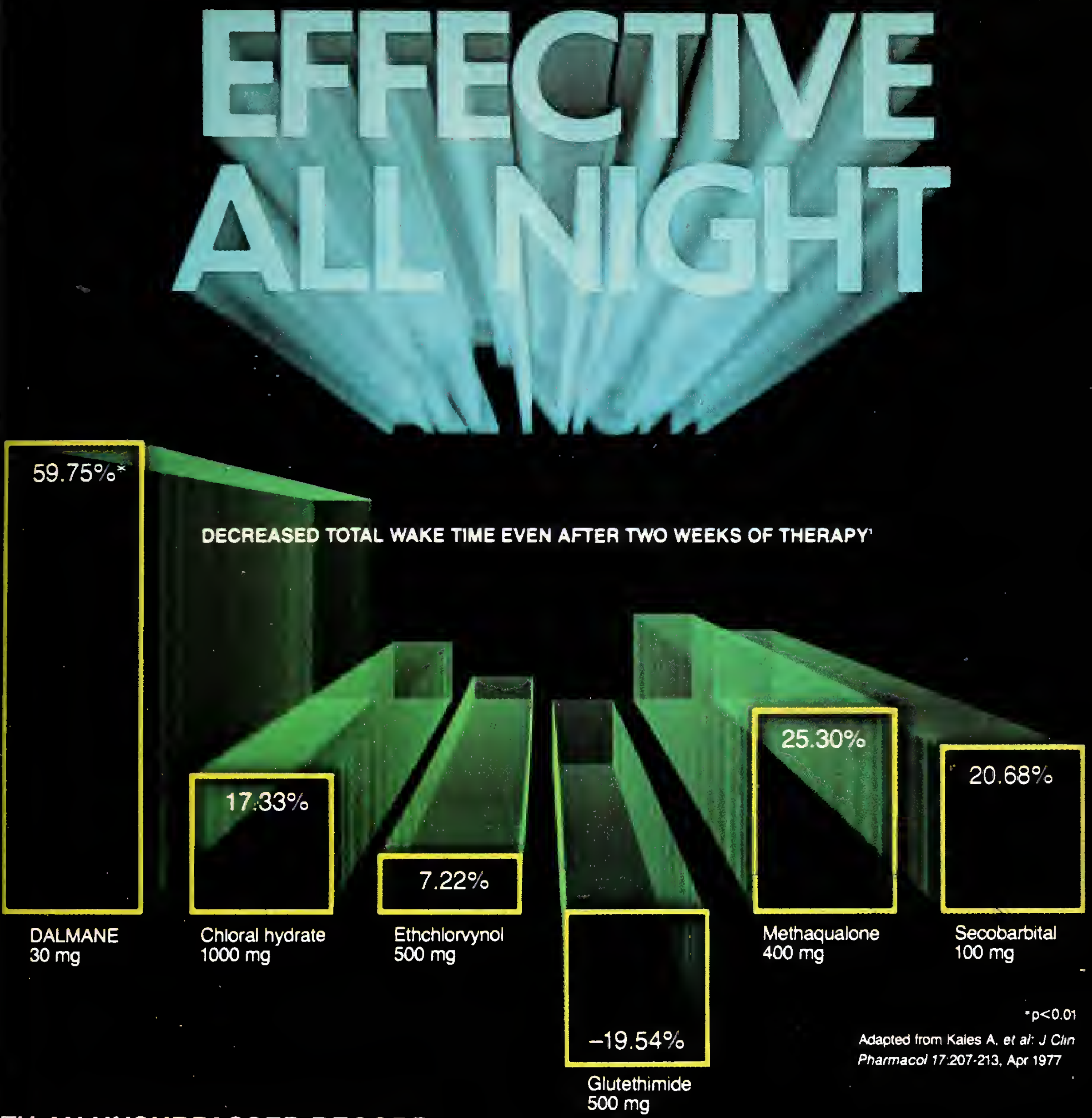
J-9043-4 July 1981



DECREASED TOTAL WAKE TIME EVEN AFTER TWO WEEKS OF THERAPY[1]

*p<0.01

Adapted from Kales A, *et al*: *J Clin Pharmacol* 17:207-213, Apr 1977

## ITH AN UNSURPASSED RECORD F EFFICACY AND SAFETY

ıe efficacy of Dalmane (flurazepam HCl/Roche) has ·en documented in 185 studies involving 9141 pants suffering from one or more of the three major ·ms of insomnia–difficulty falling asleep, staying leep and sleeping long enough.[2]

ɜlative safety was demonstrated in a large study of ·42 hospitalized medical patients. Only 3.1% of ɜse patients reported adverse reactions–predomiıntly unwanted residual drowsiness. None of the actions were considered serious by attending ıysicians.[3]

## ɔR SLEEP WITHIN 17 MINUTES[2] ND NO WORSENING OF SLEEP N DISCONTINUATION

apid sleep induction, within 17 minutes on average, ·ts the stage for insomnia relief. And, after discontinuion of Dalmane for periods ranging up to 14 nights, ɔ worsening of sleep compared with baseline as observed.[4]

nould insomnia recur, the patient may require guidıce in setting up a regular sleep program to help provide the optimum environment for the onset of natural sleep. If hypnotic therapy is required, it should be given for the shortest time at the lowest effective dose to achieve the desired goal.

Consider other medications the patient may be taking (including alcoholic beverages) and be aware of possible drug interactions. Please note that patients should be treated for underlying physical or psychological factors before therapy with a sleep medication is undertaken.

**DALMANE® ⒸⅣ**
**flurazepam HCl/Roche**

**THE STANDARD OF HYPNOTIC EFFICACY FROM THE LEADER IN SLEEP RESEARCH**

ROCHE®

**Please see reverse side for a summary of product information.**

SLEEP-SPECIFIC
**DALMANE**® Ⓒ IV
flurazepam HCl/Roche

**One 15-mg capsule *h.s.*–recommended initial dosage for elderly or debilitated patients.**
**One 30-mg capsule *h.s.*–usual adult dosage**
(15 mg may suffice in some patients)

**THE STANDARD FOR HYPNOTIC EFFICACY WITH IMPORTANT ADDED BENEFITS**

- Well tolerated[2]
- No chemical interference with many commonly ordered laboratory tests, including triglycerides, uric acid, glucose, SGOT, alkaline phosphatase and total protein[5,6] (See adverse reactions section of complete product information.)
- Compatible with chronic warfarin therapy; no unacceptable fluctuation in prothrombin time reported[7,8]

**UNLIKE NONSPECIFIC MEDICATIONS USED FOR SLEEP**

**Tricyclic antidepressants**
–which are *not* sleep specific,[9] yet are sometimes used in nondepressed patients for sleep
–which can cause transient insomnia in the elderly[3]
–which can require careful monitoring in cardiovascular patients[10]
–which have strong anticholinergic effects[10]

**Antihistamines**
–which are *not* reliable sleep-inducing agents[11]
–which may produce stimulation instead[11]
–which have anticholinergic effects[11]

**Major tranquilizers**
–whose side effects may be troublesome for nonpsychotic patients[12]
–where tolerance for sedation appears rapidly[12]

**Dalmane does not cause significant worsening of sleep beyond baseline levels upon discontinuation.[4]**

**References**: **1**. Kales A *et al*: *J Clin Pharmacol 17* 207-213, Apr 1977 **2**. Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ **3**. Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21* 355-361, Mar 1977 **4**. Kales A, *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975 **5**. Moore JD, Weissman L: *J Clin Pharmacol 16* 241-244, May-Jun 1976 **6**. Spiegel HE: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ **7**. Robinson DS, Amidon EL: Interaction of benzodiazepines with warfarin in man, in *The Benzodiazepines*, edited by Garattini S, Mussini E, Randall LO. New York, Raven Press, 1973, pp 641-646 **8**. Warfarin Study: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ **9**. Baldessarini RJ: Drugs and the treatment of psychiatric disorders, chap. 19, in Goodman and Gilman's *The Pharmacological Basis of Therapeutics*, ed 6. New York, Macmillan Publishing Co. Inc., 1980, pp 391-447 **10**. Cole JO, Davis JM: Antidepressant drugs, chap. 31.2, in *Comprehensive Textbook of Psychiatry II*, edited by Freedman AM, Kaplan HI, Sadock BJ, ed 2. Baltimore, The Williams & Wilkins Company, vol 2, 1976, pp. 1941-1956 **11**. Douglas WW: Histamine and 5-hydroxytryptamine (serotonin) and their antagonists, chap. 26, in Goodman and Gilman's *The Pharmacological Basis of Therapeutics*, ed 6. New York, Macmillan Publishing Co. Inc., 1980, pp 609-646 **12**. Davis JM, Cole JO: Antipsychotic drugs, chap 31.1, in *Comprehensive Textbook of Psychiatry II*, edited by Freedman AM, Kaplan HI, Sadock BJ, ed 2. Baltimore, The Williams & Wilkins Company, vol 2, 1976, pp 1921-1940

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Effective in all types of insomnia characterized by difficulty in asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chroni medical situations requiring restful sleep. Objective sleep laboratory data h shown effectiveness for at least 28 consecutive nights of administration. Si insomnia is often transient and intermittent, prolonged administration is ge not necessary or recommended. Repeated therapy should only be underta with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy Benzodiazepines may cause fetal damage when administered during preg Consider possibility of pregnancy when instituting therapy; advise patients discuss therapy if they intend to or do become pregnant.

**Warnings:** Caution patients about possible combined effects with alcohol other CNS depressants. An additive effect may occur if alcohol is consume the day following use for nighttime sedation. This potential may exist for se days following discontinuation. Caution against hazardous occupations rec complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported o recommended doses, abrupt discontinuation should be avoided with gradu tapering of dosage for those patients on medication for a prolonged period time. Use caution in administering to addiction-prone individuals or those v might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that th dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confu and/or ataxia. Consider potential additive effects with other hypnotics or Cl depressants. Employ usual precautions in severely depressed patients, or those with latent depression or suicidal tendencies, or in those with impaire renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, and falling have occurred, particularly in elderly or debilitated patients. Sev sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pai nervousness, talkativeness, apprehension, irritability, weakness, palpitation chest pains, body and joint pains and GU complaints. There have also bee occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty i focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, ano euphoria, depression, slurred speech, confusion, restlessness, hallucinatio and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phospha and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect.
*Adults*: 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly o debilitated patients*: 15 mg recommended initially until response is determi

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.

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## The Psyche, The Soma and The Heart

A seminar examining psychological and behavioral aspects of cardiovascular disease and its treatment, including associated depressions, sexual dysfunction and grief reactions.

**Saturday, April 3, 1982 • The Arizona Biltmore Resort, Phoenix**

**Faculty:**

Robert S. Eliot, M.D.
University of Nebraska Medical Center
Omaha, Nebraska

Cynthia Scalzi, R.N.
U.C.L.A. School of Nursing
Los Angeles, California

Richard Obershaw, M.S.W.
Grief Center
Burnsville, Minnesota

Stephen B. Shanfield, M.D.
University of Arizona
Tucson, Arizona

**Sponsored by Behavioral Health Services**
**St. Luke's Medical Center, Phoenix**

**Approved for 7 hours of CME credit (category 1)**

**For additional information, contact:** Christine Campbell
Medical Meeting Planner
St. Luke's Medical Center
525 N. 18th Street
Phoenix, Arizona 85006
(602) 251-8402

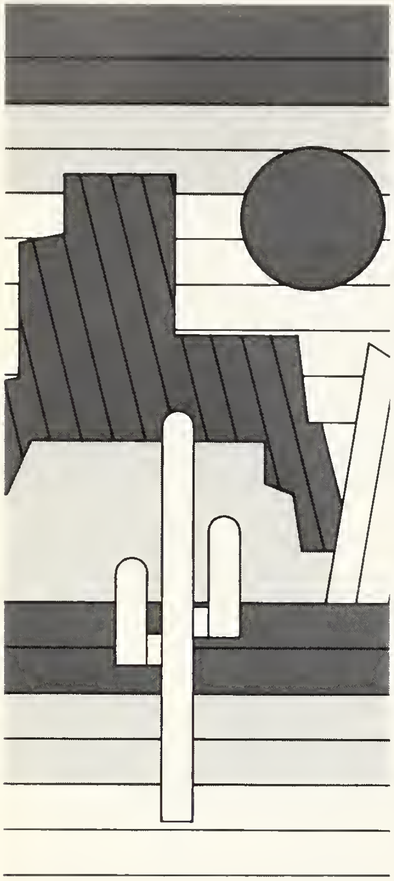
**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium
**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium
**Cardiovascular-Thoracic Record Review**
3rd Wednesday, 12:15 p.m., Auditorium
**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips Auditorium
**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium
**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium
**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium
**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium

### ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703.
Contact: see below.
**Monthly Specialty Conference — Dept. of Surgery**
1st Monday, 7:30 a.m., Century Rm. A., Contact: Med. Staff Office.
**Grand Rounds: Medical Surgical, Family Practice, Pathology, Radiology**
Weekly Thursday
**Emergency Medicine Lectures**
Weekly Thursday, 8 a.m., Century Room A.
**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm. A.
**Cardiology Conference**
Weekly Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

### TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716.
Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
**Cardiology Conference**
Weekly Monday, except last, 12 Noon, Contact: M. Maximov, M.D.
**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. Miller, M.D.
**Endocrinology Conference**
Last Monday, 12 p.m., Contact M. Parker, M.D.
**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Lohman, M.D.
**Surgical Dept. Conference**
2nd Monday, 12 Noon: Contact: C. Peter Crowe, Jr., M.D.
**Chest Conference**
1st Tuesday, 12 noon, Contact: William Nevin, M.D.
**Hematology Conference**
4th Tuesday, 12 Noon, Contact: M. Boxer, M.D.
**Infectious Disease Conference**
3rd Tuesday, 12 noon, Contact: B. Friedman, M.D.
**Nephrology Conference**
2nd Tuesday, 12 noon, Contact: Dr. Seltzer.
**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay Katz, M.D.
**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact: Dr. Lightner.
**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Foote, M.D.
**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.
**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, July, & Oct. Contact: C. Mangelsdorf, M.D.
**Medical Conference**
Weekly Wednesday, 8:00 a.m., Contact: M. Fuchs, M.D.
**Neurology-Neurosurgery Conference**
Weekly Wednesday, 12 noon, Contact: H. W. Buschsbaum, M.D.
**Dermatology Conference**
1st Thursday, 12 noon, Contact: R. Friedman, M.D.
**Neuroradiology Conference**
Weekly Thursday, 5:00 p.m., Contact: N. Komar, M.D.
**Tumor Conference**
Weekly Thursday, 12 noon, Contact: Cancer Committee.
**Pulmonary/Infectious Disease Case Conference**
2nd Thursday, 7:30 a.m., Contact: William Nevin, M.D.



# SOUTHWESTERN CARDIOVASCULAR SYMPOSIUM

sponsored by Departments of Cardiovascular Surgery and Cardiology, St. Luke's Medical Center, Phoenix, Arizona

**April 30 — May 1, 1982**

The Hyatt Regency Hotel, Phoenix

**Guest Faculty:**

E. STANLEY CRAWFORD, M.D., Professor of Surgery, Baylor College of Medicine, Houston, Texas. JAMES S. FORRESTER, M.D., Professor of Medicine, UCLA School of Medicine, Los Angeles, California. DONALD C. HARRISON, M.D., President, American Heart Association; Chief, Cardiology Division, Stanford University School of Medicine, Palo Alto, California. VOLKER SCHLOSSER, M.D., Professor and Chairman, Department of Cardiovascular Surgery, University of Freiburg, Freiburg, West Germany. MARKO TURINA, M.D., Professor and Chairman, Department of Cardiovascular Surgery, University of Zurich, Zurich, Switzerland. JURO WADA, M.D., Professor and Chairman, Department of Cardiovascular Surgery, Tokyo Women's Medical College, Tokyo, Japan. ERNST WOLNER, M.D., Professor and Chairman, Second Surgical Unit, University of Vienna, Vienna, Austria.

**Symposium Co-Chairmen:**

George Bandy, M.D., Cardiology
Cecil C. Vaughn, M.D., Cardiovascular Surgery

**For additional information, contact:**

Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center
525 N. 18th Street, Phoenix, Arizona 85006
(602) 251-8402

**G—I Conference**
Weekly Friday, 12 noon, Contact: George Kerrihard, M.D.

**Interhospital Nuclear Medicine Conference**
Weekly Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.

**OB/GYN Conference**
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.

**OB/GYN Pathology Conference**
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

**GI X-Ray Clinical Correlation Conf.**
1st & 3rd Monday, 1 p.m., Rm. C435, Contact: Drs. Sanowski, & Nielsen.

**Medical/Surgical GI Conference**
1st & 3rd. Mondays, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.

**GI Pathology Conf.**
2nd. & 4th Monday, 1 p.m., Path Conf. Rm, Contact: Dr. Sanowski..

**Orthopedic Surgery Conference**
2nd. Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.

**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 2128, Contact: Dr. Mertz & Dr. Lanard.

**Vascular Conference**
2nd Monday, 3 p.m., Rm. 3134, Contact: Dr. Clintora

**GI Grand Rounds**
Weekly Tuesday, 1 p.m., Contact: Drs. Sanowski, Kozarek, after GI Grand Rounds Rm T-5.

**Housestaff Pulmonary Disease Teaching Conf.**
Weekly Wed., 3-4 p.m., Rm. 4115, Contact: Dr. Rohwedder, Ext. 388.

**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habibzedeh

**Medical Surgical Chest Conference**
1st & 3rd Thursday, Contact: Dr. Rohwedder or Dr. Gill.

**GI Consultant Rounds**
1st Thursday, 1:30 p.m., Rm. T-5.

**Medical Service Grand Rounds**
Weekly Friday, 11 a.m., Rm. T-5, Contact: Dr. Zeller

**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

## PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.

**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

## TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.

**Medical Surgical Chest Conference**
Weekly Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Conf.**
Weekly Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for category 1 credit.

**ARTHRITIS: Today's Progress, Tomorrow's Changes**

a distinguished faculty will present two days of concurrent lectures, workshops, panels and small discussion groups

**June 18-19, 1982 • The Arizona Biltmore Resort, Phoenix**

**Visiting Faculty:** John Calabro, M.D., Professor of Medicine, University of Massachusetts, and Chief of Rheumatology, St. Vincent's Hospital, Worcester, Massachusetts/ William O'Brien, M.D., Professor of Medicine, Chief of Rheumatology, University of Virginia, Charlottesville, Virginia/ Harold Paulus, M.D., Professor of Medicine, UCLA, Los Angeles, California/ Mary Betty Stevens, M.D., Professor of Medicine, Chief of Rheumatology, Johns Hopkins University, Baltimore, Maryland/ John Ward, M.D., Professor of Medicine, Chief of Rheumatology, University of Utah, Salt Lake City, Utah/ Robert Willkins, M.D., Professor of Medicine, University of Washington, Seattle, Washington

**plus faculty members from St. Luke's Medical Center**

sponsored by St. Luke's Hospital Arthritis Program
St. Luke's Medical Center, Phoenix

Sanford H. Roth, M.D., Program Medical Director and Seminar Chairman

**Approved for 12 hours of CME credit, category 1**

For additional information, contact
Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center, 525 N. 18th Street
Phoenix, Arizona 85006 (602) 251-8402

**diology Conference**
Tuesday, 7:00 a.m.

**eration Outreach**
d Tuesday, 6:30 p.m.

**thology Conference**
Tuesday, 7:00 a.m.

**eration Outreach**
d Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

onsor: U of A College of Medicine, Tucson, 85724. Robert M. Anderson, M.D., Dir. of IE. Contact: See below. Approved for egory 1 credit.

**esthesiology Board Review Conference**
d & 4th Monday, 4-5 p.m., AHSC Dining . C&D, Contacts: Dr. Vaughn & Kryc.

**esthesiology Basic/Clinical Sciences ctures**
eekly Thursday, 4-5 p.m., Room 5403

**esthesiology Case Discussion**
eekly Wed., 7:00 a.m., AHSC, Dining Rm. D.

**esthesiology Resident Presentation**
Monday, 4-5 p.m., AHSC Dining Room, D, Contacts: Drs. Otto & Zehngut.

**ncer Center Tumor Board Seminar**
d Tuesday, Monthly, 12-1 p.m., HSC ditorium, Contact: Cancer Center

**rdiac Catheterization Conference**
eekly Friday, 4:00 p.m., Contact: Dr. mkin.

**Cardiology Research Conference**
Weekly Tuesday, 7:30 a.m., Contact: Dr. Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505. Contact: Jerry Goldston, M.D., Department of Surgery.

**Dermatology Rounds**
Weekly Wed., 11:30 a.m., Contact: Dr. Lynch

**Endocrinology Seminar**
Weekly Thursday, 12-1 p.m., Contact: Dr. Johnson

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contac: Dr. Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter

**Head & Neck Tumor Management Conference**
Weekly Wed., 4:00 p.m., Contact: Dr. Manning

**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.

**Medical Grand Rounds**
Weekly Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.

**Neuromuscular Disease Conference**
Weekly Friday, 11:30 a.m., Contact: Dr. Stern

**Neuropathology Review Conference**
Thursdays, 8:30 a.m., Rm. 5120, UAHSC.

**Neuroradiology Conference**
Weekly Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson

**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.

**Neuropathology Case Review**
Weekly Friday, 8:30 a.m., AHSC, Contact: Dr. P. Johnson.

**Neurosciences Seminar**
Weekly Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford

**Nuclear Medicine**
Weekly Thursday, 7:30 a.m., AHSC Radiology Conference Rm.

**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler

**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.

**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.

**Pathology Seminar**
Weekly, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley

**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.

**Pediatric Grand Rounds**
2nd & 4th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.

**Pediatric Problem Patient Conference**
Weekly Wed., 8:00 a.m., Contact Dr. Walson

**Pediatric Research Forum**
Weekly Tuesday, 7:30 a.m., Contact: Dr. James Jones

**Pediatric Specialty Conference**
Weekly Friday, 8:00 a.m., Contact: Dr. Philip Walson.

**Psychiatric Grand Rounds**
Weekly Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital

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**Chest Radiology**
Weekly Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

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Weekly Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
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**Radiology-Rheumatology Conference**
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**Uroradiology (Genitourinary Radiology)**
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Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.

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**Joint Thyroid Conference**
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**Trauma Conference**
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**Toxicology Conference**
Weekly Tuesday, 8:00 a.m., Contact: Dr. Keith Likes

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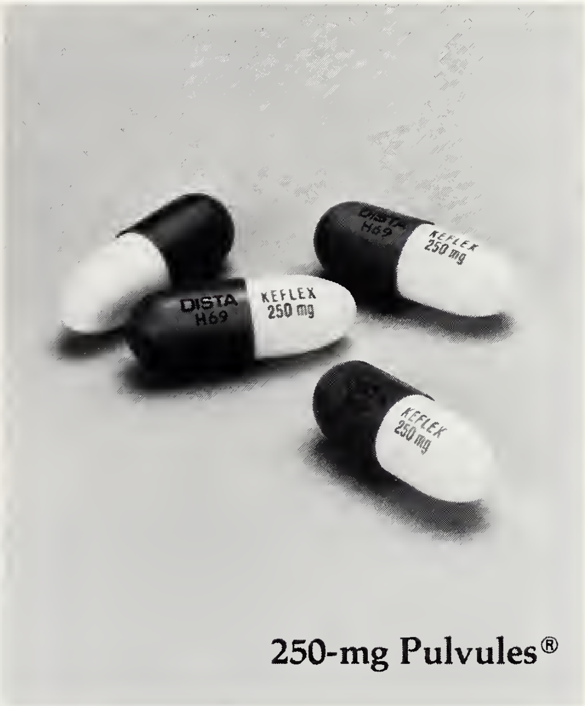

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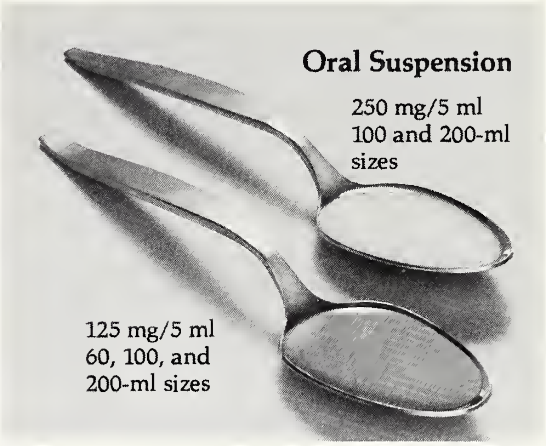

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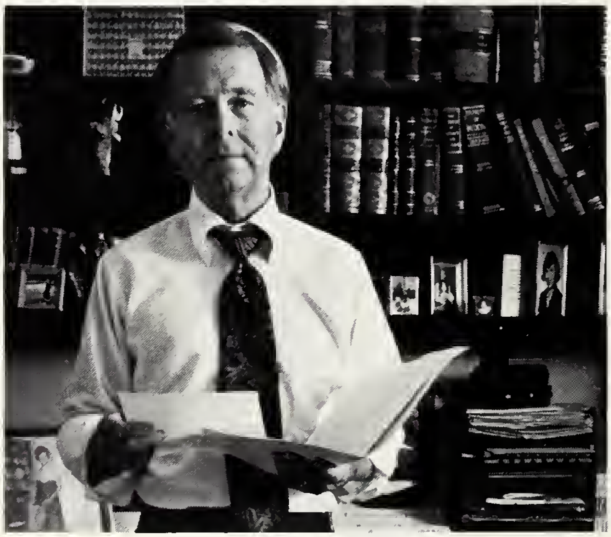

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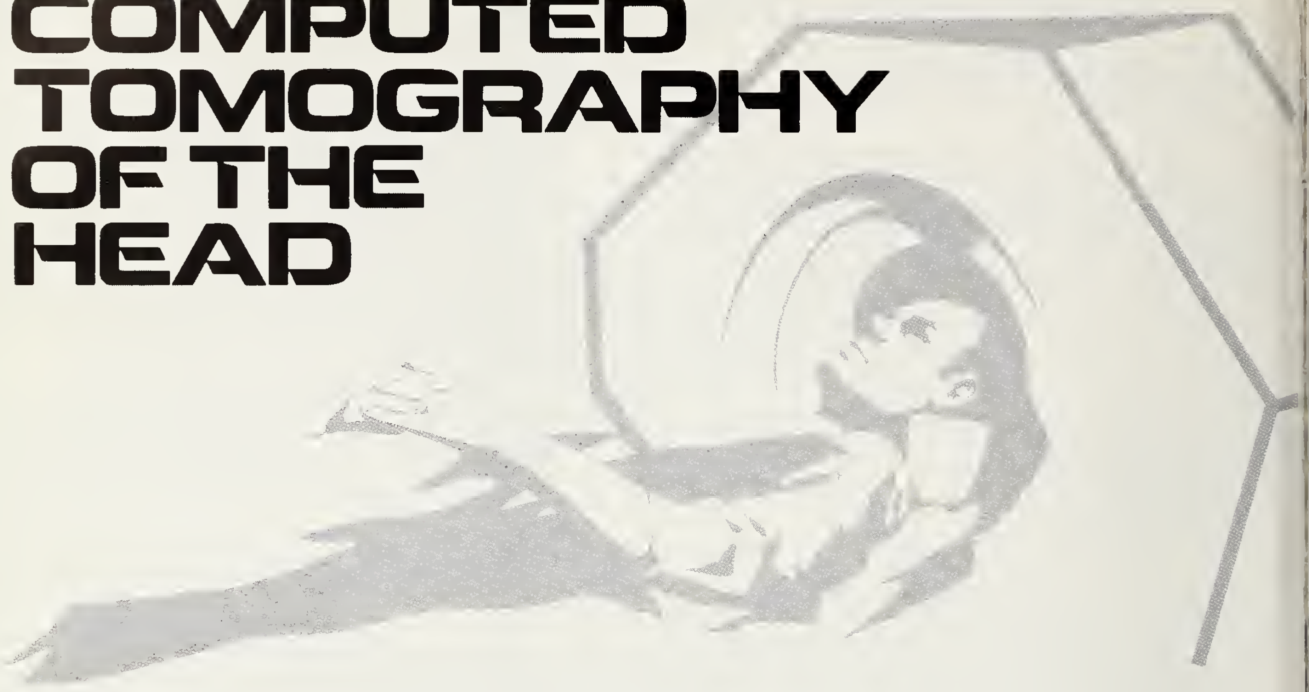

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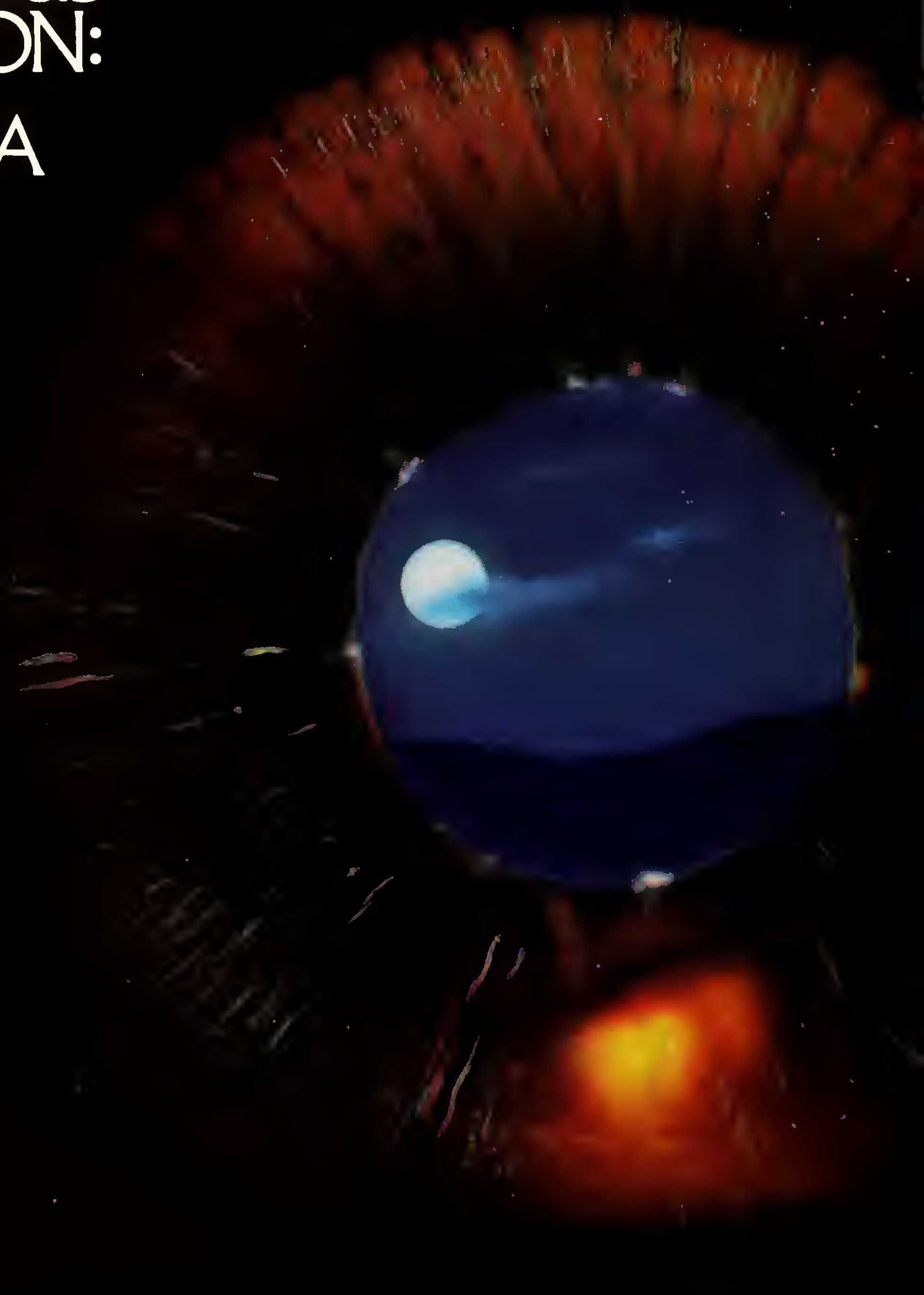

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*Other* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling
**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose Treatment is symptomatic and supportive I V administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning See complete product information for manifestation and treatment
**Dosage:** Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single *h s* dose may suffice for some patients Lower dosages are recommended for the elderly
Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required
Limbitrol 5-12 5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses
**How Supplied:** White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12 5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50

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AAA RESORT

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- 100% cure rate with Tegopen® (cloxacillin sodium)
- only a 60% cure rate with penicillin V-K

As seen on admission

After one week of penicillin V-K therapy

Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

**Brief Summary of Prescribing Information**

**TEGOPEN®**
(cloxacillin sodium)
**Capsules and Oral Solution**

For complete information, consult Official Package Circular. (12) 9/11/75

**INDICATIONS:**

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

**IMPORTANT NOTE**

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

**CONTRAINDICATIONS:**

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

## RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

| | | **Given Tegopen®** *(cloxacillin sodium)* | **Given** *penicillin V-K* |
|---|---|---|---|
| ***Staphylococcus aureus*** | (78 patients) | 39 | 39 |
| Returned to clinic at one week | | 29† | 38† |
| Treatment failure at one week | | 0 | 18 (47.4%) |
| ***Staphylococcus aureus* and *Streptococcus pyogenes*** | (9 patients) | 4 | 5 |
| Returned to clinic at one week | | 4 | 5 |
| Treatment failure at one week | | 0 | 2 (40%) |
| **No initial bacterial growth** | (14 patients) | 9 | 5 |
| All 14 healed, regardless of which antibiotic was administered. | | | |
| **Beta-hemolytic *Streptococcus*** | (1 patient) | 0 | 1 |
| **TOTALS:** | **102 patients** | **52 patients** | **50 patients** |

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

## STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus,* 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes,* and 1% beta-hemolytic *Streptococcus*.‡
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

‡The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

# TEGOPEN®
# (cloxacillin sodium)

## –effective therapy for staph infections of the skin and skin structures

---

**WARNING:**

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

**PRECAUTIONS:**

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

**ADVERSE REACTIONS:**

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

**USUAL DOSAGE:**

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

*N.B.:* INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

**SUPPLIED:**

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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May 8, 1982, 1 p.m. to 5 p.m.
Doubletree Inn
Tucson, Arizona
Speakers: Robert S. Brittain, MD, FACS
Jack Redhair, Esq., Defense Attorney
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# In Vertigo

## On Balance...

# RU-VERT®

Each Tablet Contains:

| | |
|---|---|
| Pentylenetetrazol | 25.0 mg |
| Pheniramine maleate | 12.5 mg |
| Nicotinic acid | 50.0 mg |

## Clinically proven actions

- Antihistaminic
- Cerebral stimulant
- Vasodilator

## Few side effects

- Vasodilation occasionally causes facial flushing which can be minimized by recommending that Ru-Vert® be taken following meals or with food.

## Dosage

- One or two tablets three times a day

Please see next page for a summary of prescribing information

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In Vertigo
On Balance...
RU-VERT®

See following prescribing information.

**DESCRIPTION:** Each tablet contains the following active ingredients:

| | |
|---|---|
| Pentylenetetrazol | 25.0 mg |
| Pheniramine maleate | 12.5 mg |
| Nicotinic acid | 50.0 mg |

**INDICATIONS:** Ru-Vert is indicated as an adjunct therapy in the symptomatic treatment of acute or chronic vertigo.
**CONTRAINDICATIONS:** Convulsive disorders or known history of sensitivity to any of the listed active ingredients. Because of the vasodilating action of nicotinic acid, Ru-Vert should not be used in patients with hypotension.
**WARNINGS:** The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.
**PRECAUTIONS:** Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of Ru-Vert who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

Pheniramine maleate, like other antihistamines, may produce sedative side effects in certain patients.

Transient vasodilatation due to rapid absorption of nicotinic acid may produce facial flushing and a sensation of warmth. These effects may be ameliorated by recommending that Ru-Vert be taken following meals or with food.
**ADVERSE REACTIONS:** Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.
**DRUG ABUSE:** Drug dependence has not been reported with Ru-Vert.
**OVERDOSAGE:** Signs and symptoms of acute overdose may be due primarily from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.
**DOSAGE AND ADMINISTRATION:** The recommended dosage of Ru-Vert for vertigo or motion sickness is 1 or 2 tablets three times a day with meals or light snacks.

This drug is not for use in children under 12 years of age.
**HOW SUPPLIED:**

| | |
|---|---|
| Bottles of 100 tablets | **NDC** 0524-0060-01 |
| Bottles of 300 tablets | **NDC** 0524-0060-03 |

Federal law prohibits dispensing without prescription.

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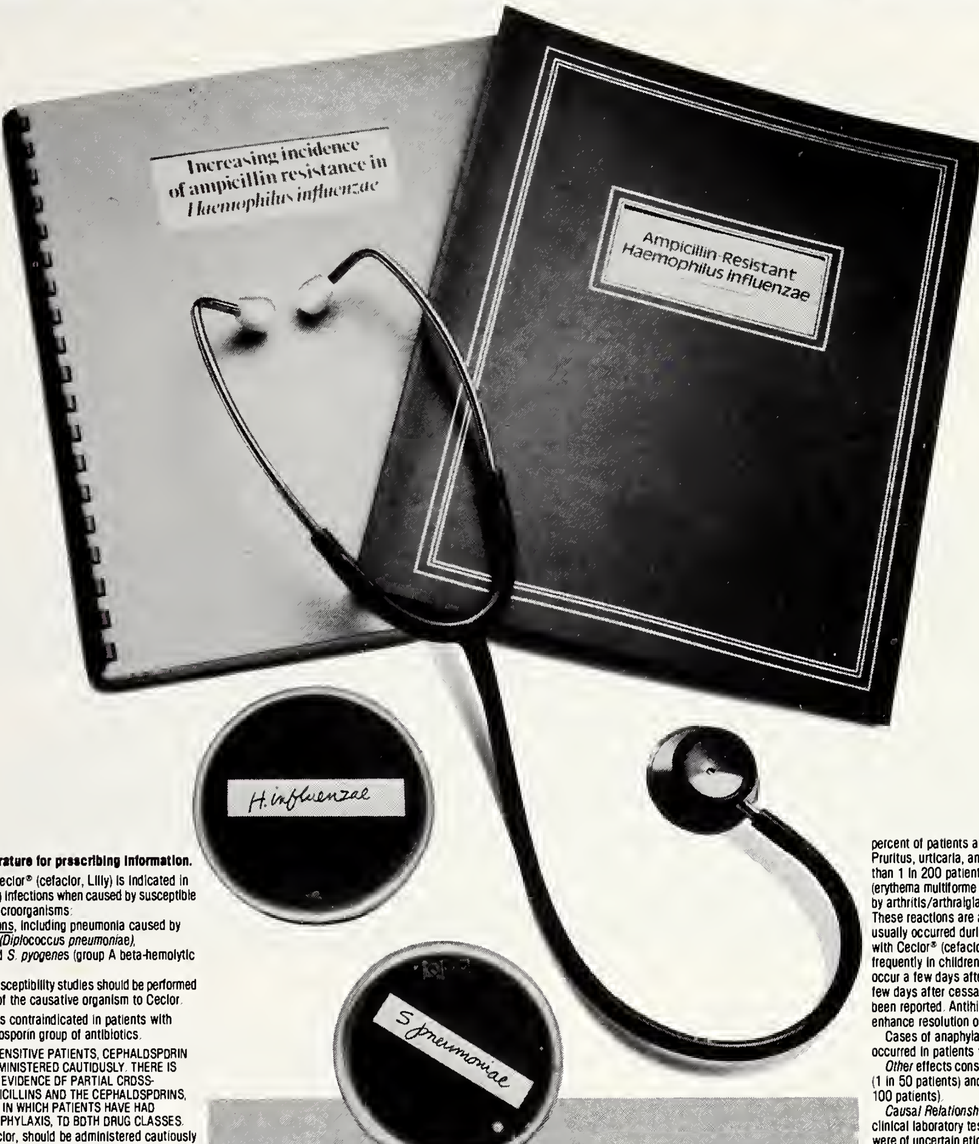
# An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin-Resistant Haemophilus Influenzae
H. influenzae
S. pneumoniae

**Some ampicillin-resistant strains of Haemophilus Influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]**

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

## Ceclor®
## cefaclor

Pulvules®, 250 and 500 mg

**rief Summary.**
**onsult the package literature for prescribing information.**

**ndications and Usage:** Ceclor® (cefaclor, Lilly) is indicated in he treatment of the following infections when caused by susceptible trains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *treptococcus pneumoniae (Diplococcus pneumoniae), aemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic treptococci)

Appropriate culture and susceptibility studies should be performed o determine susceptibility of the causative organism to Ceclor.

**ontraindication:** Ceclor is contraindicated in patients with nown allergy to the cephalosporin group of antibiotics.

**Varnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN NTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS LINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-LLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, ND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD EACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously o any patient who has demonstrated some form of allergy, articularly to drugs.

**Precautions:** If an allergic reaction to cefaclor occurs, the drug hould be discontinued, and, if necessary, the patient should be reated with appropriate agents, e.g., pressor amines, antihistamines, r corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of onsusceptible organisms. Careful observation of the patient is ssential. If superinfection occurs during therapy, appropriate easures should be taken.

Positive direct Coombs tests have been reported during reatment with the cephalosporin antibiotics. In hematologic tudies or in transfusion cross-matching procedures when ntiglobulin tests are performed on the minor side or in Coomb esting of newborns whose mothers have received cephalosporin ntibiotics before parturition, it should be recognized that a ositive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of arkedly impaired renal function. Under such a condition, careful linical observation and laboratory studies should be made ecause safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction or glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® ablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, SP, Lilly).

*Usage in Pregnancy*—Although no teratogenic or antifertility ffects were seen in reproduction studies in mice and rats receiving p to 12 times the maximum human dose or in ferrets given three imes the maximum human dose, the safety of this drug for use in uman pregnancy has not been established. The benefits of the rug in pregnant women should be weighed against a possible isk to the fetus.

*Usage in Infancy*—Safety of this product for use in infants ess than one month of age has not been established.

**Adverse Reactions:** Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

*Gastrointestinal* symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting 1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor.

*Hypersensitivity* reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

*Note:* Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

**References**

1. Antimicrob. Agents Chemother., *8*:91, 1975.
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7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

Lilly

200066

*Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.*

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ARIZONA MEDICAL ASSOCIATION

# ANNUAL 91ST MEETING

**MAY 20-22, 1982 ★ SAFARI RESORT ★ SCOTTSDALE, ARIZON**

## Arizona Medical Association

### BUSINESS SESSIONS

**Friday, May 21**

| | |
|---|---|
| 6:00 a.m. | Executive Committee Breakfast Meeting |
| 8:00 a.m. | Board of Directors' Meeting |
| 10:00 a.m. | House of Delegates' Meeting |
| 12 Noon | Past Presidents' Luncheon |
| 2:00 p.m. | Amendments Reference Committee Meeting |
| 2:00 p.m. | Resolutions Reference Committee Meeting |

**Saturday, May 22**

| | |
|---|---|
| 6:30 a.m. | Maricopa County Medical Society Caucus |
| 6:30 a.m. | Pima County Medical Society Caucus |
| 8:00 a.m. | House of Delegates' Meeting |
| 12 Noon | Board of Directors' Luncheon Meeting |

## ArMA Auxiliary

### BUSINESS SESSIONS

**Thursday, May 20**

| | |
|---|---|
| 12 Noon | Past Presidents' Luncheon |
| 1:30 p.m. | Executive Committee Meetir |
| 2:30 p.m. | Annual Meeting |

**Friday, May 21**

| | |
|---|---|
| 10:00 a.m. | Post-Convention Board Meeting |
| 11:00 a.m. | Committee Meetings |
| 11:30 a.m. | Luncheon/Installation |

## SOCIAL EVENTS — Arizona Medical Association and Auxiliary

**Thursday, May 20**

| | |
|---|---|
| 7:00 p.m. | Reception and |
| 8:00 p.m. | Steak Fry |

**Friday, May 21**

| | |
|---|---|
| 7:00 p.m. | President's Reception |
| 8:00 p.m. | President's Banquet |

## SPECIAL EVENTS — Arizona Medical Association and Auxiliary

**Friday, May 21 TWO CONCURRENT SESSIONS 2:00-4:30 p.m.**

**TAKE TIME TO REALLY GET IT ON** — A Time Management Seminar, Tom Fullmer, Ph.D. Dr. Fullmer i Corporation Director, Productivity, Research and Public Affairs for the Tanner Companies. Tips o how to control your schedule, not be controlled by it.

**WHAT ARE SOUND INVESTMENTS TODAY?** — A look at the financial opportunities available t medical families presented by an attorney, a certified public accountant, and a panel of auxilian experienced in real estate, business, stocks, bonds and tax shelters. Theresa Mao, Moderator.

**The business of organized medicine is YOUR business.**
**Attend the reference committee meetings at 2:00 PM, Friday,**
**May 21, and let your delegates know your views.**

Cardiology

# onsiderations in the election of Cardiac 'rosthetic Valves for :hildren, Tissue Versus lechanical

ack G. Copeland, M.D.
obert B. Mammana, M.D.
lugh D. Allen, M.D.
illian M. Valdes-Cruz, M.D.
tanley J. Goldberg, M.D.

ditor:
enneth B. Desser, M.D.

**bstract**

Calcification has been reported with increasing requency in tissue valve prostheses. This includes rosthetic valves used in both adult and pediatric age roups. The mechanism for valve failure and for the high ıcidence of calcification in children remains unknown. t the Arizona Health Sciences Center a total of 36 hildren have had tissue valve replacements over a 3½ ear period with two cases of severe xenobioprosthetic alcific stenosis.

Calcification of porcine valvular xenografts causing eath or reoperation six months to five years after implantation has been reported in from 10% to 40% of children receiving mitral or aortic porcine valve replacement.[1-9] A recent multicenter study[10] reported actuarial failure rates for bioprostheses in children to be 25% at one year post-implant, 60% at five years for the aortic position, 4% at one year and 60% at five years for the mitral position. Similar calcification observed in this type of prosthesis in adults occurs less frequently and after longer implantation periods.[2,11]

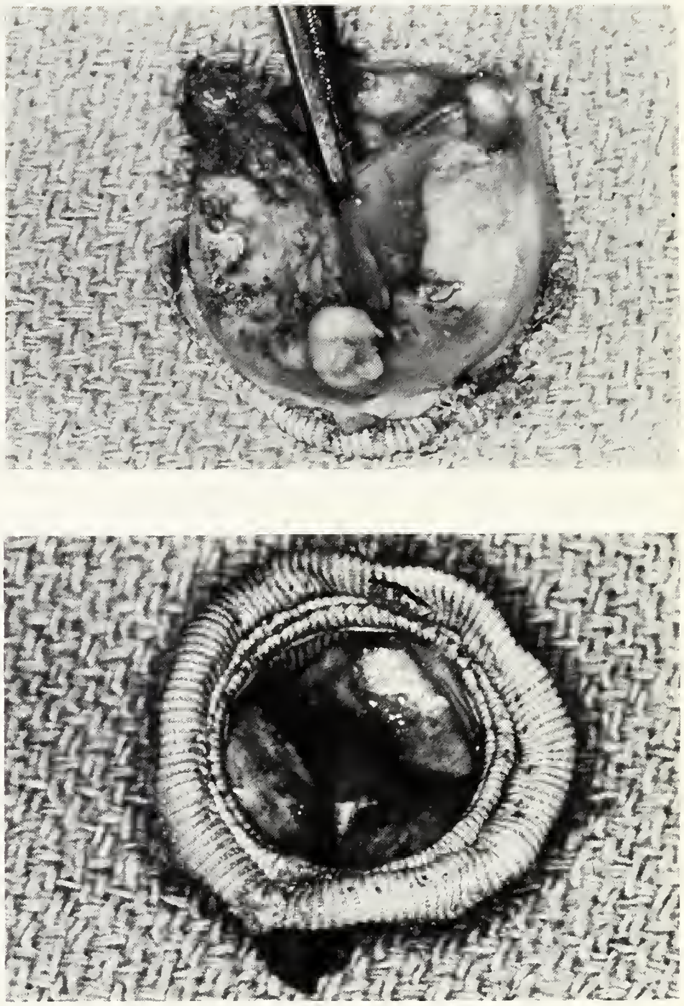

**Figure 1**
**Photograph of explanted valve showing calcification in area of major curvature of all three cusps: a. view from aortic side, b. view from ventricular side.**

At the University of Arizona Health Sciences Center, we have implanted seven Ionescu-Shiley bovine protheses in children ages 15 months to 16 years (mean age 8.75 years) for a mean duration of 14 months. Of the four aortic, one mitral, and two pulmonic valve replacements, only one valve has failed. This was in an 11-year-old boy 16 months after implantation of a bovine pericardial prosthesis in the aortic position. We

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om: Divisions of Cardiothoracic Surgery and Pediatric Cardiology, niversity of Arizona Health Sciences Center, Tucson, Arizona 85724. eprint request, Jack G. Copeland, M.D., Surgery Department, Section Cardiothoracic Surgery, Arizona Health Sciences Center, 1501 orth Campbell Avenue, Tucson, Arizona 85724.

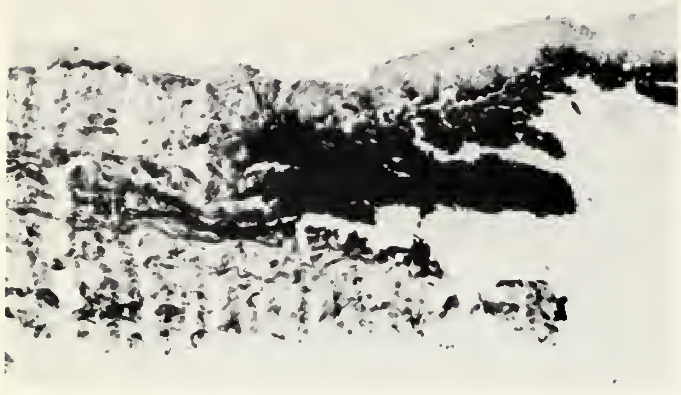

Figure 2
**Photomicrograph (x 400) original magnification of longitudinal section through one cusp. The upper (aortic) surface is covered with fibrin. The lower (ventricular) surface is denuded. Calcium (black) has entirely replaced the full thickness of a portion of the leaflet on the right.**

found severe calcific prosthetic stenosis with a 120 mmHg gradient requiring replacement. The valve was severely calcified at the base of each cusp. (Figure 1) The stenosis was so severe that a 5 mm probe could not be passed retrograde through the leaflets. A Bjork-Shiley valve was implanted and the patient had an uncomplicated course with discharge to home on the sixth postoperative day.

Microscopic examination of the calcified prosthesis showed calcification of collagen fibers in each leaflet which extended across the greatest curvature of the leaflet, but did not involve the free edges of the leaflets, the commissures, or the leaflet-stent junction. (Figure 2) A thick layer of fibrin was present on the outflow surface of the leaflets and was partially covered with endothelium. The inflow surface was denuded exposing collagen fibers. Immunofluorescent staining was nonspecific indicating no immunopathologic changes. Electron microscopic evaluation showed areas of collagen disruption, macrophages, lipid particles, and old blood cells within the leaflets. Subsequent complete evaluation of his calcium metabolism was normal.

We have also implanted six Hancock porcine valves (4 aortic, 2 mitral) in six children ages 8 to 19 years (mean 16 years) for an average implantation time of 34 months. There has been one case of severe calcific mitral prosthetic stenosis in a 13-year-old girl 17 months following initial implantation. This young Mexican female presented in severe cardiac failure with low blood pressure and evidence on two-dimensial echocardiography of a large thrombus in her left atrium. She was taken to the operating room for emergency valve replacement where her entire left atrium was found to be filled with thrombus and only a one-half square centimeter opening was present in the severely calcified Hancock prosthesis. This Hancock valve was removed and replaced with a Bjork-Shiley prosthesis, and the patient recovered uneventfully.

In addition to these mitral and aortic val replacements, we have placed Hancock porcine valv conduits from the right ventricle to the pulmona artery in 25 patients (mean implant time 25 month Twenty of these patients have been recatheterized a none has demonstrated a significant valvular gradient valvular calcification. One patient developed a valvul infection following a staphylococcus aureus sk eruption. This valvular infection spread to cause pericondit abcess which was growing in size when t patient was referred back to the Arizona Health Scienc Center for emergency surgery. At this time the valv conduit was replaced, his anterior mediastinum w extensively debrided, and a second valved conduit w implanted. He recovered and was treated wi antibiotics for one year when a distal anastomo stenosis was detected and the second valved cond was replaced with a third conduit, this one simply bei a dacron conduit with no valve. At the time of this thi operation, extensive cultures were taken from t mediastinum and all were sterile. The patient recover again without incident from his procedure and has do well for two and a half years postoperative. H antibiotics were discontinued one year ago, and the have been no sequelae.

There is no doubt that after implantation xenobioprostheses currently available have a finite li expectancy. *In vitro* fatigue testing[13] predicts durabili of two years or less with leaflet tears as the mechanism failure, but *in vivo* observation fails to support th prediction. Most porcine prosthesis failures[2,11] a associated with calcification and gradual onset symptoms. Evidence of decreased flexibility witho calcification has been found *in vitro*[15] as well as b postoperative catheterization.[15] Finally, loss of porcir valve endothelium from preimplantation processin disruption of collagen bundles, and penetration into th fibrosa and spongiosa layers by cells and proteins as ear as two months postimplantation have been we documented.[16,17]

Because calcification of porcine prostheses accelerated in children[1,8,10,23] one must careful consider the risks of these valves. However, with fe exceptions,[18] xenobioprostheses are current preferred.[1,2,7,8]

A number of possible mechanisms for bioprosthet calcification in children have been suggested includin accelerated wear from heart rates which are 1½ to times adult rates, active calcium metabolism fro growth, abnormal calcium metabolism,[20,21] infection, and rejection.[19] Penetration by macrophages and othe cells into the valve collagen may predispose t calcification and as gluteraldehyde leeches out of th collagen cellular infiltration may become more an more significant.

Further evaluation of the Ionescu valve will b necessary before we can accurately compare th cine valvular and bovine pericardial prostheses. Our e of calcification in an Ionescu valve at 16 months r implantation suggests that a pattern of prosthesis cification similar to that for porcine valves in children be seen. The current set of alternatives for valve lacement in children reduces to the question of lack durability of xenobioprostheses versus the morbidity l mortality of mechanical prostheses and attendant icoagulation. Growth, an important variable which is ent from the adult population, may mandate more n one subsequent valve replacement particularly in all children. If the growth is rapid, xenograft stheses may have to be replaced for this reason ore calcification occurs. Because of the vigorous ivity of most children and the consequent potential rbidity from anticoagulation, we believe that tissue nografts remain a significant alternative for valve lacement in children. However, the nearly inevitable cification of such valves currently suggests that chanical valve replacement is the only alternative ich has a long-term operation-free prognosis.

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## Editorial Comment

### Kenneth B. Desser, M.D.

The prosthetic valve of choice has come full circle. Initially, the "ball in cage" variety enjoyed world-wide popularity. Then the various tilt disc and strut valves appeared on the scene and were employed in large numbers. Finally, human homograft and especially the stented xenograft tissue valves eclipsed the mechanical prostheses. Prominent cardiovascular surgeons stated that the Starr-Edwards valve was a historical curiosity. The age of "Old McDonald's Farm" had arrived! With an "oink-oink" here and a "moo-moo" there porcine valves and delicately prepared bovine pericardial heterografts were all the rage. The preceding article by Copeland et al., points out with dramatic impact that all is not well out on the farm. Supposedly stablized tissue valves are degenerating with increased frequency and most disturbingly in the young. Within the past year hallowed editorial pages of the *New England Journal of Medicine* declared that the Starr-Edwards valve had been resurrected and might be the replacement of choice in adult men under the age of 60 and in women who did not plan on bearing children. Interestingly enough, the limiting factor on application of this valve is principally chronic warfarin administration rather than its design. Currently, a number of new model mechanical valves such as the double hemi-disc St. Jude prosthesis are being implanted and their long term role is yet to be determined. It is surely an oddity in cardiology when one of the oldest basic designs is shown not to be the worst and possibly the best.

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Seminars in
Endocrinology and
Metabolism

# The Rapid Onset of Hyperthyroidism in a Patient with Myasthenia Gravis

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Editor:
Stephen E. Dippe, M.D.

## Abstract

This is a case presentation of a patient with known myasthenia gravis who developed hyperthyroidism in less than four months. Frequent monitoring of these patients with thyroid function tests is felt to be essential.

Key Words: Myasthenia gravis, Hyperthyroidism, Atrial fibrillation.

There is a well known association of thyroid disease with myasthenia gravis. The myasthenic patient presented herein is interesting because she developed rapid onset of significant hyperthyroidism.

A 58-year-old female was admitted for weakness. There was a history of heart failure of unknown etiology and combined restrictive and obstructive lung disease. There was a 3½ year history of myasthenia gravis, and a thymoma had been excised. Her medications included pyridostigmine, prednisone, digoxin, furosemide and aminophyllin. There were numerous admissions for weakness and diplopia, and for congestive heart failure. Thyroid function tests were normal on several occasions, including those obtained four months prior to t admission.

Complaints on admission included dysphasi shortness of breath, wheezing, cough, fatigability, a frequent stools. She appeared to be Cushingoid. T blood pressure was 92/62 mm, pulse 100 per minute a irregular, temperature 97.5° F., and her weight w unchanged. Eye examination revealed no diplopia ptosis. The thyroid was smooth and not enlarged. healed sternotomy scar from the thymectomy w noted. The lungs were clear, though wheezing w heard on forced expiration. Cardiac exam showed heave under the left breast and an irregularly irregul rhythm at a rate of 120 beats per minute. Jugular veno distention of 2 cm was present with her sitting uprig No $S_3$ gallop was noted. Abdominal exam was n remarkable. The stool was brown and hemocc negative. No edema or muscle wasting was note Neurological exam was only significant for mild diffu motor weakness without demonstrable fatiguing.

The EKG showed atrial fibrillation with a rap ventricular response. Cardiomegaly and engorge

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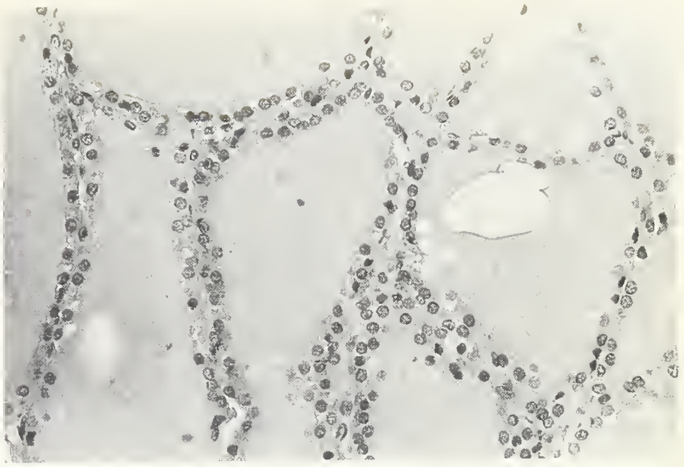
From: Medical Service, Veterans Administration Medical Center, Prescott, Arizona. Reprints will not be available from the author.

tal lymphatics were seen on the chest x-ray. The trolytes were normal, BUN 27 mg. per deciliter, cose 115 mg per deciliter, hematocrit 35%, and white nt 13,600. Arterial blood gases on room air were: $pO_2$ nm, $pC_{O_2}$ 23 mm, $HCO_3$ 17 mmol/L., and pH 7.48. The alysis was normal.

he patient was placed in the Telemetry Unit. ravenous digoxin was administered, and she verted to sinus rhythm. Her usual medications were tinued. Frequent hemopositive stools were noted, the hematocrit remained stable. On the third day id atrial fibrillation was again noted. The digoxin level 2.97. Quinidine sulfate was given without effect, and ropranolol was started. On the fourth day she was ed to be stuporous with a dense left hemiparesis. otension was noted requiring Dopamine infusion. day five she converted to sinus rhythm. Increased akness and lethargy were noted on day six. Ten mg of ophonium was given without effect. The idostigmine was reduced and the weakness roved. Later that night, however, she became otensive and an idioventricular rhythm was noted. s was rapidly followed by asystole and death. Thyroid ction tests later returned, revealing a $T_4$ of 22.0 g/ml (normal 5.5 to 11.5), $T_3$ resin uptake 66 (normal 45), $T_7$ 14 (normal 1.95-5.2), $T_3$ RIA 348 mg/ml (normal -190).

ostmortem examination of the thyroid showed a rmal sized nodular gland. There were focal areas of erplasia consistent with hyperthyroidism. There re nonencapsulated areas with acini lined by oidal to columnar epithelium, showing papillary olding, and containing pink colored material. Many these acini were enlarged. Other encapsulated areas ntained dense hyaline material with small follicles ed by cuboidal cells with pink cytoplasm. (Figure) The gs showed evidence of bronchopneumonia and ronic passive congestion. The heart revealed thrombi both right and left auricular appendages. There was ventricular hypertrophy and dilatation. There was le evidence of coronary artery disease. Microscopic am did not reveal the changes characteristic of asthenia gravis. Examination of the brain revealed an ensive hemorrhagic infarction involving the right misphere. This extended into the internal capsule and lamus. Examination of the kidneys showed a recent ht renal infarct.



Myasthenia gravis is an autoimmune disease aracterized by weakness and fatigability of striated uscle. Thymic derived IgG antibody to acetalcholine ceptor protein has been demonstrated in 70% to 90% cases.[1] Antibody has been shown to bind to a site on receptor which is distinct from the site binding etylcholine. This results in steric changes which crease the ability of acetylcholine to bind to ceptor.[2] A second mechanism demonstrates antibody ss-linking the acetylcholine receptor leading to rapid ceptor degradation.[3] A third mechanism indicates decreased receptor synthesis. A fourth mechanism points to antibody mediated destruction of post synaptic membranes.[4]

There are a number of autoimmune diseases associated with myasthenia gravis. These include thyrotoxicosis, Hashimoto's thyroiditis, pernicious anemia, pemphigus, rheumatoid arthritis, systemic lupus erythematosus, juvenile onset diabetes mellitus, ulcerative colitis, autoimmune hemolytic anemia, adrenalitis and polymyositis. Autoantibodies such as rheumatoid factor, anti-thyroid antibody, anti-nuclear antibody, anti-mitochondrial antibody, antibody to cardiac muscle and antibody to thymus tissue may be seen.[5,6] Thirty percent of myasthenics have thyroid pathology demonstrable at autopsy.[7] The incidence of hyperthyroidism ranges from 3% to 6%. There is some dispute as to whether hyperthyroidism exacerbates the myasthenia.[8]

This patient was followed very closely during her illness, and her thyroid status was evaluated periodically. She is noteworthy because thyroid function tests were normal four months prior to this admission. The literature reviewed does not describe how rapid the onset of hyperthyroidism can be in myasthenics. Because of the experience in this case, all patients with myasthenia gravis must be observed closely for the onset of hyperthyroidism.

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Seminars in
Gastroenterology
and Liver Disease

# Cholesterolosis and Adenomyomatosis of the Gallbladder

Stephen Glouberman, M.D.

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## Introduction

The most common gallbladder symptoms are those of stone disease. When the diagnosis of cholelithiasis is made, usually by oral cholecystography or right upper quadrant ultrasonography, in a patient with appropriate symptoms, cholecystectomy is the treatment of choice.

Not uncommonly, an individual will complain of intermittent or persistent right upper quadrant discomfort and the oral cholecystogram and ultrasound will reveal no stones. In approximately five percent of these individuals, gallstones will be present. In the remainder, there is either no gallbladder pathology or acalculous gallbladder disease. This article will discuss two acalculous cholecystopathies: cholesterolosis and adenomyomatosis.

## Cholesterolosis

Cholesterolosis is a condition which was first described in the latter half of the 19th century. Many papers were published on the subject prior to 1940, and relatively little has been written on the subject since that time. That does not negate the importance of the condition today in patients who are discovered to have it.

Cholesterolosis is characterized by the presence of cholesterol in the lamina propria of the gallbladder epithelium. Cholesterol or its esters are found in the basal portions of epithelial cells and in macrophage the mucosa and submucosa. It may present in eithe diffuse or localized form. In the diffuse form one s yellowish specks giving the mucosa a velvety texture the mucosa is inflamed, the appearance is analagous t strawberry, and the appellation strawberry gallbladde applied. Rarely, the process may extend into the cy duct and more rarely into the bile duct. In the localiz form a polyp is found, which is usually in the neck of gallbladder. The cholesterol is probably absorbed i the mucosa from the bile.

The incidence of cholesterolosis varies widely published series, from 9% to 20% of surgically remov gallbladders, to nearly 40% in autopsy series. In surgi series it is described more commonly in females, and autopsy series it is more prevalent in males. It occ most commonly after the age of 40, in obese patie but is not common in multiparas.[1]

In about half of the patients, gallstones are found, a symptoms are usually attributed to the stones. In ma other patients with cholesterolosis, there are symptoms, so that antemortem diagnosis is not ma The true incidence of this condition, therefore, difficult to ascertain. However, a number of studies ha been reported in which cholesterolosis was found in t surgically removed gallbladder in which no stones we found.[1,2] Cholecystectomy was performed in the patients because of intermittent or persistent ri upper quadrant or epigastric pain, at times radiating the tip of the right scapula or interscapular area. In oth patients, food intolerance of severe degree, dyspeps recurrent nausea, vomiting, fever and jaundice were t indications for cholecystectomy. In all of these patie diagnostic evaluation with upper G. I. series, bari enema, and other tests, often done repeatedly, failed reveal another cause for the patient's symptoms.

The jaundice which appeared may have been due the dislodgement of a polyp which then impacted in t bile duct. In other instances the presence of cholesterol polyp may serve as the nidus for gallsto formation.

The diagnosis of cholesterolosis is difficult to establi prior to surgery. There is no diagnostic finding. In ab one-third of the patients, the oral cholecystogram normal. In a few, one or more polypoid lesions are se In the majority, there is either poor visualization nonvisualization of the gallbladder. Ultrasonograph usually not helpful. Biliary drainage often reve cholesterol crystals in the bile fraction obtained from t gallbladder, but false positives and negatives limit t diagnostic accuracy of this once widely utiliz diagnostic test.[3] There is no consistent pattern of t serum cholesterol.

In those patients undergoing cholecystectomy cholesterolosis and in whom no gallstones are prese one-third have grossly normal gallbladders. In one-th the cystic duct is narrow. In a few, adhesions are prese on the mucosal surface. When the gallbladder is

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en, in 83% a diffuse yellow speckled pattern is seen, l in eight percent polypoid protuberances are sent.[1] Visible inflammation is present in less than four cent. Fifteen percent of patients have an associated onic pancreatitis.

n long-term follow-up, 80% to 90% of patients have nplete or significant relief of their symptoms, while remainder report minimal or no improvement.[1,2]

n summary, cholesterolosis is a condition racterized by the presence of lipid deposits in the thelium of the gallbladder, and in macrophages in mucosa and sub-mucosa. Its incidence is unknown, it frequently occurs in patients who have gallstones. an occur independently of gallstones, and is often mptomatic and not diagnosed. In some patients, nificant symptoms are present which are not different m patients who have gallstones. Diagnosis is difficult ept for the patients who have the polypoid form of condition. Patients may be symptomatic for years l often undergo repeated extensive diagnostic luations. Cholecystectomy frequently brings very isfying symptomatic improvement. A clinical areness of this condition is the key to the possibility of nefiting the patient with this acalculous olecystopathy.

### enomyomatosis

Adenomyomatosis is a non-neoplastic, non-lammatory disease of the gallbladder which is present approximately 25% of individuals.[4] It is usually mptomatic. It is characterized by hyperplasia of the cous membrane with an increase in the height and mber of folds. These folds project through the scularis as tubules or crypts, giving a gland-like pearance on histologic section. The mucosa herniates ough areas of decreased resistance forming ramural diverticuli or sinuses, the Rokitansky-Aschoff uses. These may fill with inspissated bile or form the lus for stone development. The muscular layer pertrophies and may be three to five times its usual ckness. The mucosal diverticuli or sinuses may netrate to a subserosal location.[5] It may appear as a neralized, localized or segmental form. In the neralized form, much of the gallbladder is involved l on x-ray a halo or saw-toothed appearance is seen h contrast filling the diverticuli, external to the lbladder lumen. In the localized form, a small nodule een, usually in the fundus, with a central crater which presents the opening of the Rokitansky-Aschoff sinus. the segmental form, there is a zone of constriction or nosis, usually in the midportion or proximal part of gallbladder.

Adenomyomatosis is not a congenital lesion as its idence increases with advancing age. It is seen in out five percent of gallbladder x-rays, and may be esent in patients who also have gallstones and olesterolosis. It is more common in women by a factor three.[5] Malignancy is not a complication.

The cause is unknown but it is more likely to develop in patients with a Phrygian cap deformity. This suggests that a relative obstruction may result in increased pressure in the fundus with the development of at least the localized form of the disease.

The gallbladder in adenomyomatosis appears to be in a hyper-excitable state, responding more rapidly and completely to a cholecystokinetic stimulus. It often concentrates the contrast agent more vividly and empties more quickly and completely in response to a fatty meal.

Many patients are asymptomatic, but right upper quadrant pain, dyspepsia and fatty food intolerance are reported.[4,6] The mechanism of pain production is not clear but may be related to excessive neuromuscular activity of the hyperplastic wall with vigorous contraction and distention of the gallbladder and its ducts.[6]

The radiologic features have been discussed above. A thickened gallbladder wall may be detected by ultrasound. The gallbladder may respond rapidly and vigorously to cholecystokinin after oral contrast agents have been given, and the CCK may also reproduce the patient's pain. Dunn and associates, however, have reported that patients tend to improve after surgery even if the CCK test is negative, thereby diminishing the widespread usefulness of this diagnostic test.[7]

Several series have shown that patients operated upon for symptomatic adenomyomatosis improve.[4,8] Follow-up observation of longer than one year indicates that symptoms disappeared in 70% to 90% of patients.

In summary, adenomyomatosis is a nonneoplastic, noninflammatory state of the gallbladder which may present in a localized, segmental or diffuse form. Histologically, the mucosa is hyperplastic and invaginates into the thickened muscular layer as sinuses or diverticuli. The gallbladder is hyper-excitable and appears to excessively and rapidly respond to food and other cholecystokinetic influences. Many patients are asymptomatic. Some have pain, dyspepsia, fatty food intolerance or diarrhea. The latter may be due to rapid delivery of bile into the intestine. Radiologic investigation is often diagnostic. Cholecystectomy usually provides long-term relief for symptomatic individuals in whom no other cause for the symptoms has been found.

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AM *Medical Genetics*

# Part 1: The Rise in Chromosome Abnormalities with Maternal Age

## Information for Patients and Physicians

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### Abstract

The risk of a chromosome abnormality in a child rises with the age of the mother. The rate-of-rise for this risk accelerates after age 31. A graph and yearly interval table are provided which may be utilized with patients. Today, midtrimester amniocentesis in experienced hands appears safe. Medicolegal aspects are clear: the physician must provide accurate information to the patient and make prenatal genetic diagnosis available to her, beginning at the latest by age 35. On the basis of the maternal age curve, this information can be cogently provided to women earlier in their thirties.

The most frequent indication for prenatal genetic diagnosis is maternal age.[1] Obstetricians and family physicians may thus be asked by pregnant women: "What is my chance for a problem? I'm 35." or more precisely: "What is the chance of a chromosome abnormality at my age?"

This article provides information on the rates of liveborn children with a chromosome abnormality by maternal age. We conclude with a brief discussion of medicolegal aspects and amniocentesis.

### Chromosome Abnormalities in Children at Birth

The chances of chromosome abnormalities different maternal ages[2] include the best known— Down syndrome—and less known risks for the otl autosomal trisomies (trisomies 13 and 18) as well as the major sex chromosome abnormalities and otl cytogenetic aberrations. With Down syndrome, close 100% of children are mentally retarded and about 50% children have congenital heart malformations. At le 50% of Down syndrome individuals now live adolescence and many live to adulthood. With triso 13 and trisomy 18, all affected individuals are severely profoundly mentally retarded. A high percentage ha heart and other malformations. The mortality childhood is high.

The risk for a chromosome abnormality is lowest wh the mother is around 20 years of age. At this age, the r is only about 2.0 per 1,000 live births: about one in 5 births. The chromosome risk then rises very gradua through the twenties.

The chromosome risk accelerates more rapi through the early thirties. This change in rate-of-r occurs between ages 31 and 32 years. The risk becom especially prominent with each subsequent year. The risks are presented numerically in the table a graphically in the figure.

### Comparison of Amniocentesis With Liveborn Rates

The chance of finding a chromosome abnormality higher at amniocentesis than at birth, as shown in t figure. For example, at age 37 the chance of finding chromosome abnormality on amniocentesis is about 1 71; at the same maternal age the chance of giving birth a child with a chromosome abnormality is 1 in 124.

The reason for this difference is that amniocentesis prenatal genetic diagnosis is generally done at 15 to weeks gestation. About 24 to 25 weeks remain before term delivery. During this intervening period of tim miscarriages occur naturally and these te preferentially to involve conceptions with chromosor abnormalities.

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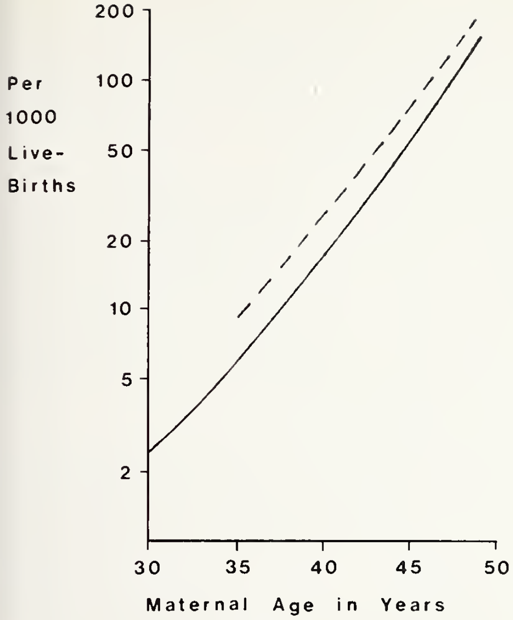

Figure
isks of a chromosomally abnormal child born at different rnal ages are indicated by the solid line, beginning at age hese risks rise sufficiently with age so, this graph is semi- ithmic. The dashed line indicates rates estimated at ocentesis in midtrimester starting at age 35.

Table
Risk of Liveborn with a Chromosome Abnormality

| Age of Mother | Chance of Chromosome Abnormality Per 1,000 Births | (1 in ____ ) |
|---|---|---|
| 30 | 2.5 | (1/400) |
| 31 | 2.6 | (1/385) |
| 32 | 3.1 | (1/323) |
| 33 | 3.5 | (1/286) |
| 34 | 4.1 | (1/244) |
| 35 | 5.6 | (1/179) |
| 36 | 6.7 | (1/149) |
| 37 | 8.1 | (1/124) |
| 38 | 9.5 | (1/105) |
| 39 | 12.4 | (1/ 81) |
| 40 | 15.8 | (1/ 63) |
| 41 | 20.5 | (1/ 49) |
| 42 | 25.5 | (1/ 40) |
| 43 | 32.6 | (1/ 31) |
| 44 | 41.8 | (1/ 24) |
| 45 | 53.7 | (1/ 19) |
| 46 | 68.9 | (1/ 15) |
| 47 | 89.1 | (1/ 11) |
| 48 | 115.0 | (1/ 9) |
| 49 | 149.3 | (1/ 7) |

## Medicolegal Aspects

A physician is bound medicolegally to practice good, customary medicine, and today this means informing a pregnant woman by age 35 of the increasing risk of a chromosomally abnormal child.

The basis for choosing 35 years of age as "the" age is uncertain. It may relate to the fact that the risk for Down syndrome (trisomy 21) at age 35 is double that of the general population. Whatever the fact, it is clear now that a physician who fails to discuss this and offer amniocentesis to a woman 35 years of age or more is liable.

The unresolved question is: What if the woman is 34, or 33, or 32, or less? On the basis of cost-effectiveness and especially the rate-of-rise of the maternal age risk, it can be argued cogently now that prenatal diagnosis should be offered to women earlier in their thirties.

## Safety of Amniocentesis

A cardinal concern with amniocentesis for prenatal diagnosis is safety. The safety of the procedure in expert hands is clear.[1] With midtrimester amniocentesis, the requirements are, in order: 1) good obstetrical history, 2) genetic counseling, 3) informed consent, 4) ultrasound examination, 5) experience in midtrimester amniocentesis, and 6) reliable laboratory services.

Experience with midtrimester amniocentesis is essential. Although the procedure can appear deceptively easy, considerable experience is necessary to ensure safety. The physician doing the amnio-centesis should have done at least 50 *midtrimester amniocenteses.*[3]

At The Genetics Center in Tempe, the current prenatal diagnostic profile includes: 1) maternal serum[4] AFP (obtained prior to amniocentesis), 2) chromosome studies of amniotic fluid cells (done by studying amniocyte clones,[5] 3) amniotic fluid AFP, and 4) amniotic fluid acetylcholinesterase.

In addition, special studies may be done, as indicated. For example, a Jewish couple carrying the Tay-Sachs gene[6] would also have the enzymatic test for Tay-Sachs disease done on amniotic fluid cells.

## Recommendation

All pregnant women in their thirties and forties should be informed by the physician of their chances of a chromosome abnormality. These chances are presented here.

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Oncology

# A Lump in the Breast:

## Assessment and Options for Local Treatment

Lawrence W. Norton, M.D.

Editors:
David S. Alberts, M.D.
Ellen M. Chase, B.S.

**Editors Note:**

**In this paper Dr. Norton describes the options for *local* treatment of early breast cancer. Equally important is the need for *systemic adjuvant* treatment for patients at risk for metastatic recurrence. A detailed description of many adjuvant chemotherapy trials can be found in the book cited in reference ten of Dr. Norton's paper (Adjuvant Therapy of Cancer III Conference, held at the University of Arizona in March 1981). DSA EMC**

## Abstract

Traditional surgical treatment of early breast cancer by classic or modified radical mastectomy is challenged today by proponents of partial mastectomy, axillary node sampling, and primary irradiation. Results in Stage I disease show equal effectiveness of the two approaches in terms of disease-free survival and the occurrence of local or distant metastases. Advantages of mastectomy are relatively less morbidity, removal of most axillary lymph nodes, and elimination of occult carcinoma in the diseased breast. Partial mastectomy preserves the breast with little cosmetic deficit while irradiation treats both primary and regional disease. Given all treatment facilities, the patient with a small breast cancer can be offered a choice in treatment: either classic or modified radical mastectomy or partial mastectomy and irradiation.

Among the most frequent complaints of adult women is a solitary breast mass discovered incidentally. Most women with such a problem seek a physician's opinion as quickly as possible. The occasion of breast examination is charged with anxiety and for no small reason. It is known commonly by both patient and physician that one of every 11 American women will develop breast cancer and that a solitary breast mass is often the first evidence of cancer.

Only 10% to 15% of all single breast masses encountered in the usual office practice will prove to be carcinoma. In almost every case, a recently appearing breast mass in an adult woman should be diagnos histologically. An exception is an obvious cyst, as prov by aspiration of fluid, in a patient with previou confirmed mammary dysplasia. Any woman with history of mammary dysplasia who has a recurrent bre mass that does not yield fluid on needle aspirati should be considered to have cancer and encouraged undergo excisional biopsy.

Physical characteristics of a breast mass less than t centimeters in diameter cannot be used to exclude t possibility of carcinoma. Mammography can confi the presence and anatomic location of a lesion a might give hints as to its benign or malignant natu However, neither mammography nor thermograp can be relied upon for diagnosis and neither should ev be substituted for tissue biopsy.

Core needle biopsy is a useful office technique bu applicable only when the tumor is two centimeters diameter or larger where it will be certain that the tiss core has been removed from the lesion. In most cases small breast masses, excisional biopsy can be perform easily and painlessly as an outpatient procedure. T goal of excisional biopsy is to remove the breast m entirely along with a rim of surrounding normal bre tissue.

If histologic examination of an excised breast m shows carcinoma, the surgeon must become aware several factors which influence both treatment a outcome of disease. He would certainly want the tum sent for hormone receptor site determination. He wou stage the disease on the basis of primary tumor size a clinical evidence of regional lymphatic metastases. would inquire of the pathologist whether the disease infiltrating ductal carcinoma, the most common form breast cancer, or whether it is a more favorable form disease such as medullary, tubular, or colloid carcino Other questions concerning tumor histology wou relate to the degree of cytological differentiatio lymphatic permeation, blood vessel invasion, a invasion into soft tissue of the breast. Risk fro carcinoma of the breast is known to increase in relati to the frequency of these histologic features.

Early breast cancer, which one would expect in patient who promptly reports a small breast mass, c represent either Stage I or Stage II disease. According the TNM Staging System, Stage I breast cancer involv primary lesions of less than two centimeters diamete no obvious axillary metastases, and no evidence distant metastatic spread. Stage II disease includ primary tumors two to five centimeters in diamete either no palpable axillary lymph nodes or movab axillary nodes, and no evidence of distant spread. Stag and Stage II comprise 85% of all cases of breast cancer. the time of initial diagnosis, only 10% to 15% of patien with early breast cancer have detectable metastases.

When information concerning diagnosis, histolog features, and staging is available, the patient must b asked to consider treatment options. Traditionally, ear

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ast cancer has been treated by excision of the breast dissection of regional lymph nodes. The classic ical mastectomy was introduced at the turn of the ntury and remained the procedure of choice until the 0's.· Perhaps the strongest proponent of that eration in recent times is Håagensen who emphasizes erative technique as a means of improving results. nong Håagensen's patients with the equivalent of M Stage I breast cancer, ten-year survival is 75%.[1] A re recent experience from Memorial Hospital which ludes treatment by both classic and modified radical stectomy shows that among 382 patients at ten years, % are disease free.[2] Recurrence is seven percent in a group of 134 patients who had primary tumors less n one centimeter in diameter. Only five percent of group died within ten years. Among the remaining patients with tumor size beween one and two ntimeters, recurrence is 21% and mortality is 15%. It is vious from the Memorial experience that mastectomy early breast cancer with no involvement of axillary nph nodes is an extremely effective procedure.

Memorial Hospital has also reported ten-year results a group of 142 patients who had either modified or ssic radical mastectomy for Stage II breast cancer.[3] currence is 35% among this group with a mortality of %. The superb results obtained from Memorial ospital are not reflected in national figures. The tional Adjuvant Surgical Breast Program recently ported overall ten-year survival of Stage I and Stage II east cancer patients as only 25%.[4] Among patients with e to three positive axillary lymph nodes, those who uld be expected to benefit most from axillary section, ten-year survival is only 37%. Patients with re that three axillary nodes positive have had only % survival.

oth the classic and modified radical mastectomies based upon the concept that cancer can be ntrolled by removing the primary lesion and its means regional lymphatic spread. For years, surgeons esumed that breast cancer spread to axillary lymph des before hematogenous dissemination occurred. A view of ten-year survival statistics after either modified classic radical mastectomy suggests that matogenous spread of disease occurs earlier than merly believed and that breast cancer must be nsidered a "disseminated disease."

During the last two decades, a number of surgeons moved only part of the breast as primary treatment for east cancer. The most publicized experience in this gard was that of Crile.[5] While his statistical methods ve been questioned on the basis of patient selection, ile showed that survival of his patients undergoing ly partial mastectomy was 44% at ten years, a figure mparing favorably with results after mastectomy. perience in Europe during the 1970's with either mpectomy or partial mastectomy supported Crile's ew that limited excision is no worse in terms of survival an mastectomy and axillary dissection. An occasional contrary experience indicated that recurrence rates were higher after partial mastectomy than after classic or modified radical mastectomy.

At the Foundation Curie in Paris, ten-year results of primary irradiation for Stage I and Stage II cancer are virtually identical with operative results obtained at Memorial Hospital during the same period.[6] On the basis of such experience, Pierquin, a Frenchman, initiated a form of treatment for early breast cancer described as "primary irradiation." His approach entails excisional biopsy of the primary tumor, along with variable amounts of breast tissue, followed by both external and interstitial irradiation to a total of 6,000 R. At five years, 90% of Pierquin's patients with Stage I cancer and 80% of Stage II patients were disease free. At ten years, among 293 patients, Stage I survival is 71% and Stage II survival is 50%.

The place of classic or modified mastectomy in the treatment of early breast cancer is now being questioned. A number of studies comparing the effectiveness of standard operations with that of lesser excisional procedures and irradiation are under way. The most significant study reported to date is from Italy. At the National Cancer Institute in Milan, 701 patients were randomized prospectively into two treatment groups.[8] All patients had Stage I breast cancer with primary tumors less than two centimeters in diameter. One group of 349 patients underwent a classic radical mastectomy. Another group of 352 patients had quadrantectomy for excision of the primary breast mass, axillary dissection, and radiotherapy involving both external and interstitial sources. At five years, overall survival was 90% both among patients treated by radical mastectomy and by quadrantectomy. The percentage of patients without evidence of disease was virtually identical in each group.

It is obvious from these data that a choice in treatment must be offered the patient with early breast cancer. For those with Stage I disease, the choice is between modified radical mastectomy and partial mastectomy with irradiation. It appears that identical results in terms of survival and recurrence can be obtained by either technique. For Stage II disease, the comparable effectiveness of primary irradiation is not as evident.

While modified radical mastectomy carries the obvious disadvantage of loss of the breast, it is usually associated with very little morbidity. It has the advantage of a thorough removal of axillary lymph nodes for predicting the outcome of disease. Furthermore, it removes all multicentric sites of occult cancer in the involved breast.

Partial mastectomy and irradiation have the great advantage of preserving the breast, which is seldom deformed even after the removal of a significant amount of tissue. Irradiation requires a considerable investment of time (perhaps six weeks) and can cause locally bothersome dermatitis. Interstitial irradiation is applied through tubes which are first inserted in the operating room while the patient is anesthetized. Facilities for such irradiation are unavailable in many communities.

Partial mastectomy and irradiation, as currently practiced, includes sampling of axillary lymph nodes. The number of nodes obtained by this technique is limited. There is considerable doubt in some quarters that axillary node sampling properly stages breast cancer. An experience at the University of Alabama among 72 patients showed understaging in 25%.[9] A report from the University of Pennsylvania analyzing 285 patients contended that axillary node sampling understaged patients less than five percent of the time.[10]

One of the more important arguments against limited breast resection and irradiation is based upon the multicentricity of breast cancer. It is likely that occult foci of cancer are present in a breast containing a malignant mass in one-third to one-half of cases. Proponents of partial mastectomy and irradiation point out that these occult foci are probably eliminated by irradiation. Certainly local recurrence rates after radiation treatment do not suggest that they frequently become clinical cancer.

It is the responsibility of the surgeon to explain alternatives in treatment to a patient with early breast cancer. Certainly the patient must participate in decision making. Irradiation may require relocation to another community for a period of time. The same may be true of modified radical mastectomy if breast reconstruction is to be done immediately or at a later time. Nevertheless, it is fair to say that given all treatment facilities, early breast cancer is treated equally well by partial mastectomy with irradiation and by classic or modified mastectomy.

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## *Radiology*

# Case of the Month No. 55

Jonathan M. Levy, M.D.
Wilfred M. Potter, M.D.

Editors:
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Gerald Pond, M.D.

A 51-year-old woman had an abnormal CT scan of t abdomen. Subsequent renal and hepatic arteriogra showed abnormalities. (Figure 1 and 2)

What are the abnormalities?

What would you recommend be done?

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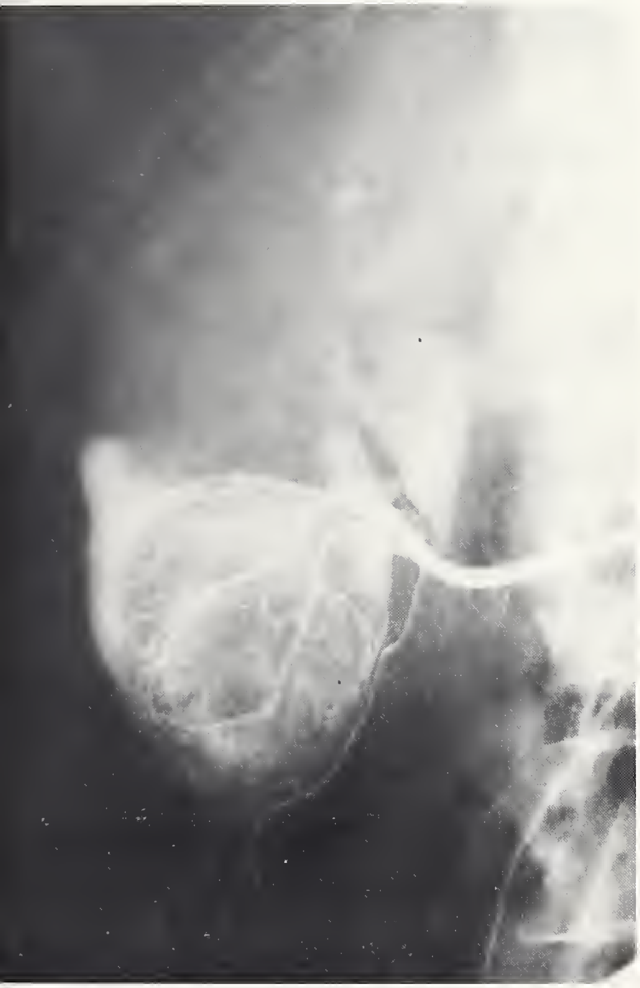

Figure 1
ver pole right renal arteriogram. Note mass in lower pole.

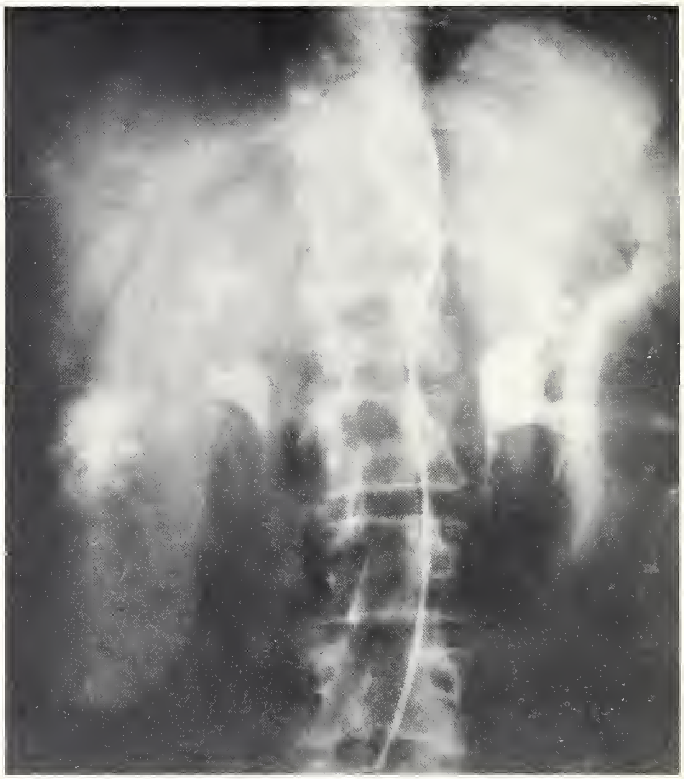

Figure 2
Late phase of hepatic angiogram. Vascular mass in right lobe of liver.

*Answer on next page*

# Answer:
# Renal Oncocytoma

## Focal nodular hyperplasia of the liver

Based on the angiograms (Figure 1 and 2), the radiologist made the (obvious) diagnosis of renal carcinoma with liver metastasis. The patient had a nephrectomy and hepatic wedge resection, which yielded the two benign lesions named above.

Oncocytoma is an uncommon, but not rare, benign renal neoplasm. It arises from proximal tubular epithelial cells. The angiographic pattern often consists of a large vessel which courses around the tumor mass, with multiple perforating vessels arising from the peripheral artery to invade the tumor. This has been termed the "spoke-wheel" pattern, and is characteristic, but not pathognomic of oncocytoma. The tumor usually produces a dense, homogenous blush on angiography. In our case (Figure 1), the tumor blush was typical but the vascular pattern was not. Since renal carcinoma can never be completely excluded, all patients suspected of having oncocytoma should be explored. However, if the radiologist suggests the correct diagnosis, and the surgeon notes the characteristic tan, solid mass on inspection at surgery, wedge resection rather than nephrectomy may be performed.

Focal nodular hyperplasia of the liver (FNH) is another uncommon lesion. Also called hepatic hamartoma, FNH is a tumor which forms around a central area of s tissue. It has not been related to oral contracept usage, but can grow under hormonal influence. F produces a fine, granular hypervascular appearance hepatic angiography (Figure 2). Though hepa metastasis from hypernephroma is usually very vascul differentiation from FNH is often possible on the basi the vascular pattern. In our patient, careful study of t hepatic angiogram might have suggested the pro diagnosis.

This patient, therefore, required surgery to confi the character of her renal lesion. Preoperative suspici of the coincidence of these two uncommon entities m have led to a somewhat less extensive surgi procedure; wedge resection and of the renal tumor a biopsy of the liver. There is an old medical adage, whi says "when you hear hoof beats outside the wind don't think of zebras." In this case, the horses h stripes!

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## *Renal Disease*

# redialysis Management of hronic Renal Failure

eorgetta C. Bidwell, M.D.

itors:
orgetta Bidwell
orge Nickas

Many primary care physicians treat renally insufficient tients prior to dialysis. Therefore, some guidelines are ecessary in terms of the frequency of office visits, utine laboratory evaluations, and the dos and don'ts garding common medications.

I would like to divide the population into four general tegories, irrespective of the etiology of their renal sease and use these as an outline for discussing their anagement.

**Category 1:** Glomerular filtration rate greater than % normal, or creatinine approximately equal to 2 g%.

**Category 2:** Glomerular filtration rate 30 mg% to 50 g% normal, or creatinine of 2 mg% to 3 mg%.

**Category 3:** Glomerular filtration rate 10% to 30%; creatinine 3 mg% to 5 mg%.

**Category 4:** Glomerular filtration less than or equal to 10% of normal; creatinine of 5 mg% or greater.

The first category of patients are usually asymptomatic. Diagnosis of renal functional impairment has been made by either abnormal urinary sediment or elevated creatinine on a blood chemical analysis. Once the diagnosis of renal disease is made (biopsy often may be useful), they may take a decade or more to reach end-stage renal disease requiring dialysis management. Diabetics or patients with rapidly progressive glomerulonephritis may be an exception to this, going on to renal failure within six months. During this time, the primary care physician can manage the patient. They should be seen on a three to six month basis in the office, at which time an interval history and physical examination can be obtained and performed. Laboratory-wise, a CBC and a SMAC are usually adequate with six month to yearly glomerular filtration rates studies, depending upon the stability of the renal function. A glomerular filtration rate, rather than creatinine clearance on a 24-hour urine specimen may be more reliable—especially as renal functional impairment progresses or in heavy proteinuric states. Patients do not tend to be significantly anemic in this category and generally have hematocrits equal to 35. If a patient has a hematocrit of less than 35, he should be evaluated as you would any patient with anemia and not ascribe the anemia arbitrarily to the category of anemia secondary to chronic renal disease. A patient will usually have been evaluated by a nephrologist at this point and diagnosis of the etiology of the renal disease made. If not, this should be done and then the patient may return to the primary care physician for further follow-up and treatment. Usually treatment is aimed at control of blood pressure and treatment of urinary tract infections. Patients with selective glomerular nephritides or lupus will require immunosuppressive therapy and this can be outlined by the nephrologist. Diabetics are more difficult to control and will need more close follow-up. Attempt at glucose control does seem to be helpful and an ophthalmologic evaluation follow-up essential for the overall potential rehabilitation of the diabetic patient with renal disease.

Medications need few adjustments in this phase. I would still avoid tetracycline and nitrofurantoin groups, as they can increase acidemia and hyperphosphatemia, along with disproportionately elevating the BUN. Blood pressure is more of a problem in glomerular lesions than tubular interstitial lesions. Indeed, tubular interstitial lesions may have a sodium-losing component. These patients have to be carefully monitored to be sure that they do not become sodium depleted and therefore, prerenally azotemic.

The second category of patients—those with glomerular filtration rates 30% to 50% of normal, bear closer watching. Office visits at three month intervals are

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appropriate. Symptoms still may be minimal, but fatigue is a common complaint. Usually hematocrits are in the low 30's. Hyperparathyroidism has already begun, even if calcium and phosphate determinations on the SMAC appear normal. Parathyroid levels are often increased. We feel Rocaltrol and early institution of phosphate binders when serum phosphate starts upward (toward the 30% normal glomerular filtration rate level) may be helpful in decreasing some of the ravages of renal osteodystrophy, namely osteitis fibrosa cystica often associated with the older dialysis patients and people who have had secondary hyperparathyroidism for years.

Dietary adjustments can begin at this point with protein dietary restrictions in the 80 gram range. Sodium restriction should be determined largely by blood pressure and the patient's sodium status (edema). Adequate nutrition is very important, even if it means institution of earlier dialysis—a fact more important in the third category that we will be discussing shortly (glomerular filtration rates 10% to 30% normal). Potassium restriction is rarely necessary in this category, as urinary volumes usually remain adequate for potassium losses. Most medications need some adjustment at this point. I would avoid tetracycline and nitrofurantoin groups. Most semisynthetic penicillins need 30% decrease in dosage. Aminoglycoside adjustment should be done according to creatinine clearance charts and serum level determination. Penicillin and erythromycin can most times be given in full doses. Diuretics may need an increased dose and for the most part, thiazides will not be adequate to enhance clearance of filtered sodium when creatinine is greater than 2.5 mg%. The loop diurectics may be required. Nondiuretic antihypertensive medications may undergo a period of time when their dose requirement is diminished in this category. This occurs at a time when decreasing renal function requires increasing diuretics for the sodium clearance, but other antihypertensive drugs are delayed in metabolism and excretion, necessitating decreases in their requirement. Blood pressure control being so essential to preserving marginal renal function may require more frequent office visits at this time. With the exception of Captopril (a converting enzyme inhibitor with specific activity on decreasing blood pressure by decreasing angiotensin II), no antihypertensive agents significantly enhance renal flow or glomerular filtration rate. Many times, increased blood pressure in the early phase is a trade-off with decreased renal perfusion until stabilization occurs at a lower perfusion pressure.

Diabetics also may have some peculiarities at this phase. Renal function may rapidly decrease once they hit the 30% glomerular filtration figure. Also retinopathy and neuropathy may be more graphic and move toward earlier referral for dialysis or transplant management. This is a phase when diabetics may note changes in insulin doses with more "shock" episodes and hypoglycemia requiring decreasing insulin doses and split-dose management.

The third category, 10% to 30% glomerular filtrati rate, is of variable duration. As mentioned abo diabetics drop off more rapidly, while other patie may smolder for six months to two years. Usually t patient is seen at monthly intervals and more frequen as the 10% mark is approached. Most of the time he the goal is to stay off dialysis as long as the patient functioning well and able to take in adequate nutritic but be cognizant of the fact that the patients are i precarious balance and minor illnesses, infections, a need for surgery may tip the scales in favor of dialy support.

There are not the same clear-cut lines in chronic re disease as in acute renal failure as to when re replacement therapy is needed. Certainly the clas triad of hyperkalemia, acidemia refractory management, and fluid over-load refractory to furth diuresis still applies. Also, softer criteria, such progressive encephalopathy, neuropathy, a myopathy are important. Even symptoms of naus vomiting, anorexia, and loss of weight yield po protoplasm and poor nutritional status and are of k importance in moving towards renal replaceme therapy.

In this category, if the patient is not being follow concurrently with a nephrologist or if he has not see nephrologist in the area, then it is time for a referral plan what is called End-Stage Renal Disea management. Organized dialysis programs ha available teams compiled of physicians (nephrologi and access and transplant surgeons), nurses, soc workers, and dieticians. These people are trained to he answer questions most commonly asked by patients namely, "Can I live?," "How can I live?," and "How ca afford to live?"

It is important and very helpful if patients can ha selected a modality of therapy prior to its immedia need and have had some time for the necessa reorganization and adjustment of their lives.

If hemodialysis is selected, obtaining an access seve weeks or months prior to the need for use is preferabl If CAPD (continuous ambulatory peritoneal dialysis) selected, access is not an immediate requirement b arranging a place in the home for supplies and storage necessary. If any form of home dialysis is selected, family member or helper must be designated participate in the training.

If transplantation is selected, family donors need to evaluated, if available, and worked-up along wi arrangements made for donor-specific bloc transfusions.

The major thrust in this phase is more towards "wh can be done when my kidneys fail?"

Hematocrits in this phase range between 25 and unless the patient has polycystic kidney disease or oth kidney diseases with large kidneys, whe erythropoietin activity continues even at end-sta al disease. Transfusions are rarely used unless ients have angina and require higher hematocrits for ter cardiac function. Transfusions will help symptoms terms of fatigue, but caution should be used as reasing fluid may precipitate pulmonary edema or lular destruction and hyperkalemia.

ietary-wise, these patients usually have protein and lium restriction. If the volume of urine is less than 600 er 24 hours, then potassiumn restriction may also be uired. Most patients are on phosphate binders and caltrol at this point. A word of caution—one can make enal failure patient hypercalcemic with Rocaltrol. If patient takes Rocaltrol and not his phosphate ders, then a high calcium-phosphate solubility oduct can cause metastatic calcification. normalities in calcium and phosphate are often ponsible for the pruritus associated with renal ufficiency and should be addressed first. When king for symptomatic relief of pruritus, anything m antihistamines to charcoal to ultraviolet light have en used with varying degrees of success.

ost medications need reduction in this phase. Even Septra/Bactrim (trimethoprim-sulfa) medications ed 50% reduction in doses and may even cause temia to increase in symptomatic uremia. Caution is key here. Even if a medication is not catabolized by kidney, final products considered relatively inert are ayed in excretion. Even topical medications and nasal ay need to be used with caution as hypertension ondary to nasal spray preparations has been reported the renal insufficient patient. Also, drug-binding is ered by the uremic state itself and may alter potential ion (Dilantin is an example of this).

nalgesics play a role in renal disease, particularly in ular interstitial nephropathy associated with enacitin and phenacetin-containing compounds. It uld be remembered that many agents are excreted the renal tubules. Irrespective of the etiology of renal ease, the tubular areas are often more ischemic as al disease progresses. Also, acetylsalicylic acid pirin) can decrease oxidative phosphorylation on a rocellular level, enhancing further tubular ischemia. erefore, agents excreted via the tubule, used in mbination with analgesics (even salicylate containing mpounds) may enhance secondary nonspecific ular degeneration and ischemia. Certainly in tubular erstitial diseases secondary to analgesic abuse hropathy, renal function has stabilized and even proved significantly when patients were taken off and t off of offending agents. Most agents should be nsidered, alone or in combination, as potential toxins he already compromised renal tubules and therefore reme caution, even in the moderately renal-ufficient patient, must be exercised.

inally, we come to category four, less than 10% of rmal glomerular filtration rate. It is at this stage we lize how remarkable the kidney's ability is to adjust to creasing nephron mass. Near 90% of renal function is lost and the patient may complain of fatigue, nausea, and occasional pruritus, but often insists he doesn't feel as badly as you are sure he must with the chemistries you see in front of you. The kidney is capable of adapting to slowly decreasing nephron mass with increasing ability to excrete sodium and hydrogen ion proportional to the remaining nephron mass. Thus patients adapt to a slowly developing uremic environment. It is difficult to decide when renal replacement therapy should be started. Certainly fluid retention refractory to diuretics, hyperkalemia and progressive acidemia are indications; also, increased nausea and vomiting with inability to maintain an adequate nutritional status and caloric intake are others. Progressive encephalopathy with mild to moderate mental slowing, as well as peripheral neuropathy, also are more subtle indications. Rarely are nerve conduction studies or skeletal surveys performed routinely in this group of patients. More importantly and consistent are assessment of neural function performed clinically in the office with simple mental status testing and vibratory sensation testing. Assessment of skeletal status may be better performed with calcium, phosphate, and parathormone profiles, plus bone biopsy analysis if absolutely necessary.

The importance of this phase is to guide the patient towards a proper modality of therapy. Often the primary care physician who has followed the patient for months to years is best able to determine some of the more subtle changes in his patient that may lead toward earlier renal replacement therapy despite the chemistries.

Patients in category four, even more so than those in category three, are likely to have an acute event tip them over the edge. Dye studies, volume depletion stimuli that might lead to decreasing function on a short-term basis, in others, in these patients with no renal reserve may require dialysis treatment and even result in need for continued renal replacement management as their small functional reserve is lost. For the reasons outlined previously, all medications are to be used with caution and most require significant adjustment in dosage.

In summary, most patients with chronic renal disease can be followed and cared for by primary care physicians in consultation with a renal replacement team. Basic knowledge in how different diseases effect the kidney, specifically diabetes mellitus and lupus, is helpful. However, many patients have nonspecific glomerular vascular and tubular interstitial lesions which progress slowly towards end-stage renal disease in which specific treatment is not possible. It is these patients who can be followed on the above outlined basis with maximizing of renal functional reserve and the total patient health status while minimizing tests and medications that might yield decreasing renal function prematurely and renal demise.

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*Special Article*

# Health and the New Federalism

The Honorable Bruce Babbitt
Governor, State of Arizona

This speech was presented February 27, 1982 during the 1982 American Medical Association National Leadership Conference in Chicago, Illinois.

I must say it was a much better introduction than the one I heard last night, when Bill Rial began by saying, "Ladies and gentlemen and Bruce Babbitt." I must tell you that I am facing this audience on a Saturday morning somewhat intimidated. I have never talked to so many Republicans in one place in my life. I would never accuse the AMA of having any collective political drift, although last night, after Dave Hartman's speech, Don Langston from Phoenix came up. I've known about Don; he's a member of the AMPAC Board; and he said, "Bruce, I remember the last time you ran for Governor, I spent all of my efforts recruiting Sandra O'Connor to run against you." I said, "Well, Don, now you understand why I, number one, appointed her to the Arizona court and, number two, urged the President to take her to Washington." I then asked Don what he had in mind for the 1982 election. He was ominously silent; and I hereby appeal over Don's head to all of you.

Well, I thought today I might, discuss some of these familiar political and economic issues, as they relate to medical care. I can't, at the very outset, underestimate or overstate the revolutionary nature of the economic changes that must, and will, come over this country. The morning paper, again today, indicates that budget projections for the deficit in fiscal 1983 have been slipped by another 10-20 billion dollars. My own calculations from the basic budget data suggest that the deficit calculations will be slipped probably about another 30 billion; into the neighborhood of 150. What that all adds up to is a sea change in the course of American government.

The President is undeniably correct in his diagnosis of what's happened in American government. Since the 1930's, government percent—government spending as a percentage of gross national product has gradually gone from about ten percent of gross national product, past 15, 20, 25, 30, 35, and is now fluctuating between 35 and 40 percent of GNP. Medical costs obviously have been a part of this incredible change which now must be halted and reversed; will be halted and reversed, whether by deliberate planning, by drift, or by inaction.

Let me reflect with you just about the basic facts of Medicaid and Medicare—the large governmental programs. As recently as 15 years ago—that recently—we had neither of these programs. The first effective operational year for Medicare and Medicaid was 1967. At that point, the programs consumed about six billion dollars, approximately what was estimated. Fifteen years later, 16 years later, those two programs cost 90 billion dollars. That is, roughly 11% of the federal budget. Those are figures which have been escalating about 15% a year. They parallel a trend in medical expenditures that has resulted in a doubling of medical expenditures as a percentage of gross national product over the last 30, 40, 50 years; figures that you're all aware of. What we're not aware of, perhaps, is the facts that relate to where those costs are going in the future. The most difficult of all those facts is a demographic fact; a fact which runs as follows: approximately 11% of our population today is 65 and older. That will go up to 12% before the year 2000, and it will rise to 18% by the year 2040, as the baby boon now graduating from college reaches retirement age. If the current laws in place are not changed, a conservative estimate would be that sometime after the year 2000, whether it be 2020 or 2040, the existing entitlement programs which now consume one-half of the federal budget will consume 30%, not of the federal budget, but 30% of the gross national product. That's approximately the total amount of all governmental spending for entitlements, defense, interest, and domestic programs. The programs in place, if not changed, will yield 30% of gross national product just for entitlement programs including Medicaid and Medicare.

Well, what do we do about it? What does the medical profession, the politicians and the economists do? Well, I suppose you start by reviewing the anemic and ineffective attempts that have been made since about 1970. In reviewing those briefly, I would characterize them in this way. In the Nixon/Ford/Carter years, cost containment was approached on the utility model. The issue of costs was approached by saying we can impose regulatory controls on hospitals, the medical profession, reimbursem government programs the same way regulate utility rates. I might say that retrospect, ten years later, we've about the same success that we've with utility rates; that is—none. implementation of the PSRO progr the health systems agencies, certificat need, all attempts to substitute polit judgment about medical costs, with so sporatic successes, I think are n generally acknowledged to have b inadequate at best. We now see, with advent of the Reagan Administratio distinct change of philosophy; a m away from this regulatory, utility-ba model, toward the idea that somehow can beef up market forces; we increase consumer accountabili reestablish the normal competitive for of the marketplace. It is an attractive id It's one which undoubtedly has so promise. You're all familiar with issues, with the analysis; ther undoubtedly some truth in it. Ther certainly truth in the concept that th party payment for medical care throu the insurance system and throu governmental programs has, in m cases, relieved both the physician and t patient of the responsibility for maki cost effective choices; and that, inde there are many ways that we can reind some competition among employers removing the tax exempt nature medical benefits to employees; propos to give monetary incentives to employ for using effective choices; copayme for recipients of government programs move toward non-institution alternatives; vouchers, the Stockm Gephart approach, which would in eff introduce some measure of choi They're all, I would suggest, promisi useful ideas. I don't think they're going be adequate to get cost control into t system. The administration doesn't thi they're going to be adequate eith because the administration is n proceeding on a third course of acti and it is called "direct reduction medical programs; flat out scaling ba and cuts." I think it's worthwhile havin look at those and understanding t implications of them.

Now there are many differe proposals, so let me give you a few them. Medicare, certainly a tempti target; the first issue with Medicare should there be a "means" test? historic issue within the AMA. I must s it's a legitimate one. My father, f example, is not impoverished; he h never voted for a Democrat in his enti life (with the possible exception of son); he has regularly railed against kinds of government programs. I now s him, unashamedly, submitting h Medicare reimbursement forms and n

tant in asking whether that isn't an
where we should make reforms.
ator Domenici has a proposal to limit
dicaid and Medicare increases and to
t the rise in the consumer price
ex— costs which are now rising far in
ess of the CPI. That would be one
icial way of limiting increases. There
be copayment requirements
blished and, in the case of Medicaid,
ct reductions in the grants that go to
50 states for the administration of
dicaid programs. But, I suggest to you
cutting back these programs in one
avoids the issue. It avoids the issue for
ast two reasons. The first one is simply
cutting back subsidies from the
ernmental sector as you all know has a
esponding and unintended effect of
osing subsidies on other medical
sumers. If you cut back hospital
nbursement rates, their costs are
ng to be paid; they're going to be paid
other consumers. The second reason
these piecemeal, random, direct cuts
ssistance are not adequate is this: the
e in medical care is not just cost
ctiveness; and public officials are
ty of what David Hartman talked
ut last night—of talking code
guage; of avoiding reality. They're
ding reality in this way. There's an
xamined assumption in government
, as a nation, we can in fact afford to
for unlimited medical services for
ybody in this society. We have built
dical programs and medical politics on
assumption which has, so far, gone
hallenged by responsible politicians
by leaders in American society. I
ld suggest to you that is the real core
e with this economic revolution that
e coming up against. Is it important to
cost effective? Yes. Can we invent
hanisms, copayments, revision of
d party reimbursement schemes, a
ety of other mechanisms that drive us
ard cost effectiveness? Yes. Can we, in
, bring these programs under control
o cost in terms of services delivered? I
gest to you the answer is manifestly
;" and that, of course, brings me to
medical profession.

/e face a time of decision. The cuts are
ing. The politicians, by and large,
e not had nerve to talk about the
lications of those cuts. The code
guage is "more efficiency;" the reality
at we cannot, in a society of limited
ources, simply provide, uncritically,
ices in an ever-escalating curve for
rybody. Now, those facts are well
wn to all of you; we've had some
erience. We had experience with the
eral commitment to the renal dialysis
gram. The projection was a few
ion; now it's a few billion. Now, the
ple who are dealing in the artificial
rt arena, as another example, estimate that at the point that technology comes on board, as it certainly will, there will be approximately 40,000 eligble recipients of that technology; and that 40,000 estimate is low, by the way, because of the demographic changes that have not been factored in. Multiply that by $100,000 per recipient per year and we have another five or ten billion dollars. Those are the real issues. They're the issues the politicians do not yet have the courage to confront. They're going to have to be confronted for this reason: we've always had this issue of rationing of medical services; it's not—its not a new one. I would suggest in the old days it was easier to address for many reasons. We did not have the expensive technology; we didn't have the over-arching need for uniform policy; these decisions tended to be handled by a county commissioner doling out money for public medical care on a person-to-person basis, on a very subtle basis. They were addressed in the context of the doctor/patient relationship in ever so subtle ways that were based upon person-to-person relationships, a doctor/patient relationship. What's changed is the advent of technology, number one, and number two, the advent of government subsidies, which has meant an overlay of legal forms, of entitlement law, of the threat of lawsuits, of judges, lawyers, all sorts of third parties standing into that relationship to talk about the level of entitlement. It's going to get worse; the cuts are going to force the issue in the most dramatic way.

We have, I think, really one basic choice of how we're going to face that. One is to ignore it and to watch a random pattern of interference in the doctor/patient relationship driven by the reality of those cuts with no advance thought as to how it's going to be done. I suggest that's the worst possible way of dealing with the new economic reality, limited resources and some inevitable approach to the rationing of medical services. It can be done that way; the results will be unhappy; the results will be a public disillusioned, confused, and a frustrated medical profession whose traditional concerns for doctor/patient relationships is being drastically interrupted by third parties—the third parties in the form of a political system which is now paying 30% of all medical costs that are incurred. There's one alternative. The only alternative that's rational is for the medical profession to step forward and educate the American public and the politicians to the reality and to say, unflinchingly and directly, this fiction of an unlimited cornucopia of medical services is just that; it's a fiction; and your fiction of reducing costs by simply eliminating frills and imposing cost effectiveness is also fiction because as our subsidies, our level of support, begins to level out, it's going to have real implications in terms of real services to real people in this society and we simply have to look it in the eye. The politicians cannot and will not do it; and I suggest that it has to be done and that you're the only people who can do it. You're the only people who have the wisdom, the skill, the responsibility to talk about what's necessary, what's marginal, where the priorities are. I remember an old concept called "triage;" and I would suggest that's a concept that must now be resurrected, taken out of the emergency room and off the battlefield and placed directly in the economics and politics of medical care.

I've read a resolution that you passed on February 25th, which I believe to be an extraordinary document. It's cautious; it's tentative. It's not couched in explosive language; but I think I can read what it says—it says as follows: "The Association also states there is a need for evaluation of long-term health policies that would provide proper care." Not "all" care, not "all" technology, and not everything that would be available in an ideal world; but "proper" care for our citizens within the available national resources, not in an environment in which politicians and national administrations up the bill and send the check every year. It's a resolution which talks about reconciling the reality, the reality that politicians will not address, proper care within available national resources. I commend you. I hope that this resolution is just a beginning and that all of you, as a profession, will understand the enormous gravity of this economic crisis that can no longer be postponed. It can't be postponed by Democratic politicians talking about utility regulation models, or by conservative politicians talking about vouchers. We're staring it straight in the face. These facts must be reconciled. They will be reconciled to the lasting detriment of the American society and the medical profession in the political arena or they will be addressed creatively, constructively, and for the benefit of our society by you.

Thank you very much.

Wow! I'm sure all of you understand fully, after hearing that, why I am so proud, and we from Arizona are so proud, to have Bruce Babbitt as our Governor; and I think he can well be held as a Governor for all of us.

Thank you very much, Bruce, that was an outstanding address.

Daniel T. Cloud, M.D.
President, AMA

# *Editorials*

## Coalitions for Health Care—The New Voluntarism

Grappling to understand the diverse causes for the escalation in health care costs, not to mention how to implement appropriate solutions to effect changes, has seemed an endless act of frustration—a shell game—or, better, a game of "put the blame on Mame." For some time now various forms of coalitions for health care have been in the making over the country. In some groups one finds industry acting alone; other groups are composed of concerned citizens or chamber of commerce activists; and in many areas joint efforts of medicine/industry coalitions have been initiated. They have met with varied success or frustration, but at least dialogue has been initiated and expression, if not understanding, of diverse views has been aired.

A simple press release on January 14, 1982 has changed all that. The Dunlap report, so called, signified that the six major national organizations representing providers, insurers, business and labor have joined in a common statement of purpose—to wit, endorsement of voluntary coalitions on a local, state, or regional basis. Though the composition of such coalitions may vary initially, local affiliation of the various groups are encouraged to participate. Indeed, for effective results, all concerned groups ultimately will need to be included.

The appropriate focus of such groups may be generally viewed to be the costs of delivery of medical care and the numerous factors which locally influences such costs. However, the potential embrace has far greater implications, particularly in an environment where reassessment of public and private policies relating to costs, planning, and delivery of health care are being reviewed—in short, they have the potential for a new form of voluntary local health planning—a replacement for the federal regulatory mechanism via HSA.

Early in September 1981, ArMA eff
were directed toward Maricopa and Pi
County Medical Societies to accept
give leadership in the formation
medicine/industry coalitions. Plans
accomplish this were finalized
February 1982.

The efforts put forth by responsi
physicians from those two cou
societies to form successfully work
coalitions for health care should, or
again, establish a leadership role for
physician in the local voluntary hea
planning process—a role long overd
ArMA will continue its support at
state level.

In the world of cost containment,
physician remains the key decision ma
in resource utilization. Our leaders
directed toward effective coaliti
formation can do much toward success
formulation of policy regarding co
planning, and mode of effective deliv
of health care.

Clyde W. Kurtz, M.D.
President, ArMA

## Emergency Medical Services

In October of 1980 a Section
Emergency Medicine was formed un
the auspices of the Department
Surgery. The formation of this disti
academic unit has allowed the faculty
Emergency Medicine to devote th
clinical, research and administrati
efforts toward the enhancement of t
specialty of Emergency Medicine a
Emergency Medical Services. With t
recruitment of additional faculty a
profound support from the clini
departments within the Arizona Hea
Sciences Center, much progress has be

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*Reference: 1981/82 *American Druggist Blue Book*

1/82

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A pleasant tasting tonic containing iron, vitamins, minerals, and an analeptic. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

**DESCRIPTION** Forty-five milliliters of SU-TON contains the following ingredients Pentylenetetrazol, 30 mg • Niacin, 50 mg • Vitamin B-1, 10 mg • Vitamin B-2, 5 mg • Vitamin B-6, 1 mg • Vitamin B-12, 3 mcg • Manganese (as Manganese Sulfate), 1 mg • Magnesium (as Magnesium Sulfate), 2 mg • Zinc (as Zinc Sulfate), 1 mg • Iron (as Ferric Pyrophosphate, Soluble), 22 mg • Alcohol, 18%

**INDICATIONS AND USAGE** SU-TON contains pentylenetetrazol which may be helpful in the older patient as an analeptic agent when mental confusion and memory defects are present SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency

**CONTRAINDICATIONS** Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients

**WARNINGS** The safety of this preparation during pregnancy and lactation has not been established Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child

**PRECAUTIONS** Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion Caution should be exercised when treating patients with high doses of SU-TON who have heart disease While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia

**ADVERSE REACTIONS** Pentylenetetrazol in high doses may produce toxic symptoms ty
central nervous system stimulants, which act on the higher motor centers and the spina
Convulsions resulting from this drug are spontaneous and are not induced by external stimul
usually last for several minutes and are followed by profound depression and respiratory pa
Death has been reported from the ingestion of 10 grams of pentylenetetrazol

**DRUG ABUSE** Drug dependence has not been reported with SU-TON

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the central nervous system and from excessive vasodilatation with resulting autonomic n
system imbalance The symptoms may include the following vomiting agitation, tremors,
reflexia sweating confusion, hallucinations, headache hyperpyrexia tachycardia Tre
consists of appropriate supportive measures If signs and symptoms are not too severe a
patient is conscious, gastric evacuation may be accomplished by induction of emesis or
lavage Intensive care must be provided to maintain adequate circulation and respiratory exc

**DOSAGE AND ADMINISTRATION** One tablespoonful (15 ml) 3 times a day 20–30 minutes
meals This drug is not for use in children under 12 years of age

**HOW SUPPLIED** Bottles of 473 ml (16 fl oz) NDC 0524-1

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le in emergency medical services iin a short span of time.

ducationally, the Section of ergency Medicine is involved in ergraduate medical education during our years of medical training. The first second year experience are courses asic and advanced life support, as well didactic sessions on many pertinent as of emergency medicine. The third fourth year rotations are clinical eriences in the University Hospital ergency Department under the direct dance of full-time attending faculty. A es of core content lectures given twice eek by faculty on pertinent clinical ics in emergency medicine are a ndatory part of this clerkship. In ition, each student prepares a case sentation and participates in a rbidity and Mortality Case nference. Interns and residents from specialties of medicine, surgery, sthesia, psychiatry and family practice nd clinical rotations in the Emergency partment on an "Emergency dicine" rotation. House staff present patients in the Emergency Department he faculty, which are present 24 hours day, seven days a week. A weekly ergency Medicine Radiology nference and Emergency Medicine nd Rounds are a mandatory part of house staff rotation and are open to interested health personnel. A nthly journal club has been organized the practicing community emergency dicine physicians on current topics in ergency medicine. In addition, the ergency Department holds monthly amedic conferences and participates h other sections of the Department of gery in a weekly Trauma Conference.

On July 1, 1982 the Emergency dicine Residency Training Program mmences at the Arizona Health ences Center. The residency program be 24 months in length, accepting use staff who have completed a nimum of one year post-doctoral ning. The residency will consist of elve residents, six per year. The idency program has already received ovisional approval from the Liaison sidency Endorsement Committee. The l of the program is to produce ecialists in Emergency Medicine who l be leaders in the field, both clinically d academically. Briefly, the program l dedicate approximately 50% of the ne to experiences directly in ergency medicine, 25% of the time in ious critical care units, and the naining time divided among pertinent ecialty rotations that strongly relate to e practice of emergency medicine, time dicated to research and exposure to e emergency medicine service system.

The faculty of the Section of Emergency edicine have been actively pursuing their research in emergency medicine. Two papers were recently presented to the American College of Emergency Physicians Scientific Assembly and the University Association of Emergency Medicine Annual Meeting on utilization of the MAST suit in aeromedical transport and in alterations in ambient temperature. Additional ongoing projects include the use of extracorporal bypass in cardiac arrest, "new CPR"—pathophysiologic mechanisms of raising intrathoracic pressure during cardiopulmonary resuscitation, fatigue in emergency medical personnel, drug utilization studies and a project with the consumer product safety commission. The Section of Emergency Medicine is committed to the propagation of the specialty through excellent clinical and basic research.

Clinically, the Emergency Department at University Hospital has become a much more sophisticated critical monitoring unit. There has been a steady increase in the percentage of acutely ill and traumatized patients being transported to the University Hospital Emergency Department. Much effort has been expended to improve the pre-hospital care environment so that patients can be transported from the site of their illness or accident to the Emergency Department with constant monitoring and stabilization ongoing. The faculty and nursing staff of the Emergency Department feel that maximum decrease in morbidity and mortality will be achieved if critical care monitoring continues and important diagnostic procedures are initiated while the patient is in the Emergency Department. The use of the team approach among multiple specialty services guided by the faculty of the Section of Emergency Medicine has made the resuscitation and stabilization process work very smoothly and efficiently.

The future for Emergency Medicine and Emergency Medical Services at the Arizona Health Sciences Center looks bright. Educational and research endeavors must and will be expanded to improve our clinical practice of emergency medicine and develop more efficacious modalities to decrease mortality and morbidity. The prime missions of the Emergency Medicine Section will always be to provide excellent quality of care to any and all patients presenting to the University Hospital Emergency Department and to provide superb educational experience for all our undergraduate students and graduate house staff.

Harvey Meislin, M.D.
Associate Professor of Surgery
Louis J. Kettel, M.D.
Dean

# All That Glitters

Insurance policies look much alike. Insurance companies seem indistinguishable. They appear uniformly liquid and robust. But "all that glitters" is not gold.

The shriek of tires, a crash, a thud, the tinkle of glass against the pavement! A common fender bender. Within hours the insurance company is advised of the loss. In a few days its adjuster can record the amount of the company's liability with a great deal of accuracy. In a few weeks the claim is paid.

In a hospital just down the street from the accident, an operation has been completed. The patient is sent to the recovery room. An unremarkable procedure, effectively accomplished; the staff cleans up and departs. In a few days the patient is released.

It is a year before it becomes evident that recovery will never be complete. In another year a lawyer is consulted. Finally, in the third year suit papers are delivered to the surgeon and to the hospital. These are immediately transmitted to the insurance carrier. A reserve is very tentatively established. It is decided to defend the suit. Six years after the operation a judgment is finally rendered.

The auto collision insurer knew its liability within days, payment was made within weeks. At year end its financial condition was known to the penny. It could declare dividends, expand its territory, increase or reduce rates.

The insurer of medical professional liability is never in such a position. For three years the company was not even aware that a loss had occurred. Even then it could estimate its loss only tentatively, based on an educated guess on how the courts might respond. Only in the sixth year is the amount of loss finally known. Even then an appeal may make that figure tentative for several more years. With a steady flow of such losses, at no point can it state its true financial position with any authority.

Because such losses are seldom reported in the year the premium is collected, insurance accounting procedures demand, for the safety of the policyholders, that a substantial portion of each premium be set aside for loss payment. Otherwise the company would quickly go bankrupt trying to pay old losses with current funds. The company, ultimately must have reserves on hand to pay losses, some reported to them, some not, for many prior years.

This causes another problem that can plague such companies. If the reserves are inadequate, correcting the situation will have an adverse impact on net worth. If reserves and net worth were equal, say each at $10,000,000, a ten percent increase in reserves to $11,000,000 would decrease net worth to $9,000,000. Such increases are not uncommon due to a variety of factors ranging from inflation to changes in the legal climate.

Reserves for outstanding losses can ravage net worth when medical professional liability is the subject of insurance and management may not be fully conversant with the unique problems of this line of business. The Signal-Imperial companies began to write professional liability insurance in 1969 with a net worth of $6,000,000. Loss reserves were less than $5,000,000. By 1972 premium writings had increased from $9,000,000 to $40,000,000 and net worth was nearly $18,000,000. However, they had locked themselves into a volatile market. By the end of 1974, in just two more years, net worth had dropped to just over $7,000,000 while loss reserves had soared to more than $51,000,000. With loss reserves at more than seven times their remaining capital, they had little margin for error and when the Insurance Commissioner found their reserves inadequate, declared the companies insolvent. The liquidators have so far paid over $74,000,000 in claims with nearly another $65,000,000 coming from the State guarantee associations. In a little over five years, two viable companies had written themselves to the brink, and over.

Investment income is the investor's friend, the darling of the Wall Street analysts. Surely some of that should be available to investors. With the auto collison insurer it surely would be. The principal source of funds for such income is premium (not loss) reserves in such a company. A medical professional liability insurer also generates investment income, but the source is its large and volatile loss reserves. These are under the same pressure to increase that makes for high interest rates—inflation. Income can be generated and taxes paid on the income only to discover later that it was offset by increases in the reserves.

Investment income is like a forward pass. Three things can happen and two of them are bad. First, income, especially after tax, can be negative relative to inflation. Secondly, investment can involve risk of principal. In the first nine months of 1981 the American Property and Casualty insurance companies succeeded in losing four billion in capital. This, combined with their record underwriting losses, wiped out their entire investment gain.

Insurance companies are easy to start relative to manufacturing organizations. Insurance companies which write coverages where claims are known or paid in the year the premium is collected (those without a long tail) are not that difficult to manage. Sales efforts rather than underwriting can be emphasized. The writing of medical professional liability and similar coverages requires the long term commitment of managers and investors to the project if it is to be successful. It is only after many years have passed that a judgment as to the adequacy of the reserves for the first year can be made with any accuracy at all. Only then, and only for that one year, can the success or failure of the undertaking be judged.

The successful underwriting of medical professional liability insurance is not impossible. But the way is strewn with the remains of those who have failed in the endeavor. Only prudent and informed managements, educated by history, sensitive to the present, and with a keen and wary eye on the future, have even a reasonable chance for success. Because liabilities can so very easily be understated, such managements must firmly resist pressures to be "competitive," to reduce premiums, declare dividends, or otherwise impair the company's ability to meet the future with the greatest financial strength. The Competition may be next year's Signal-Imperial. The reduction in funds available to meet the contingencies of the future may be the difference between sorry failure and successful viability.

Charles McAlear, C.P.C.U.

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Mr McAlear is Chairman of McAlear Associates, Inc. of Grand Rapids, Michigan, a surplus lines insurance brokerage firm Mr McAlear holds a Masters Degree from the University of Michigan and is a Certified Property and Casualty Underwriter He is past president and founder of the National Association of Professional Surplus Lines Offices, Ltd, and the Michigan Surplus Agents Association He is also president of the Huron Insurance Company located in Indianapolis, Indiana

# MICA Malpractice Seminars

Medical malpractice suits and reducing physician vulnerability to claims will be the subjects of free, half-day seminars to be offered in May in Phoenix and Tucson for all Arizona doctors.

*"Knowing the Facts: Your Best Defense"* will be presented from 1 to 5 p.m. May 1 in the Grand Ballroom of the Arizona Biltmore in Phoenix. The informative seminar will be repeated during the same hours May 8 in the East Ballroom of the Doubletree Inn, Tuc

Presented by the Mutual Insura Company of Arizona (MICA), seminars are co-sponsored by Arizona Medical Association, the Ariz Osteopathic Medical Association, Maricopa County Medical Society, the Pima County Medical Society.

Nationally recognized authorities on subject of medical malpractice scheduled to speak, including Robe Brittain, M.D., F.A.C.S., who will dis risk management and loss prevention relates specifically to the Arizona practice experience.

Dr. Brittain, who will speak at b sessions, is a thoracic and vasc surgeon, former associate professor surgery at the University of Color Medical Center and now president Medical Liability Consultants Progr Inc.

*"Knowing the Facts: Your B Defense"* will examine both sides of legal issues of malpractice. Address the seminar in Phoenix will be defe attorney Frank A. Parks and plain attorney Michael J. Valder. In Tucs defense attorney Jack Redhair a plaintiff attorney Burton Kinerk scheduled to speak.

Considering the alarming increases malpractice claims and suits which h occurred in recent years, the informat presented in these seminars should pro valuable to every physician in Arizo Specific methods will be discussed wh practitioners can use immediately reduce their risk of being involved in increasing numbers of malpractice clai and suits.

Concerns regarding malpractice ca are borne out by hard facts. According MICA records, one out of three Arizo physicians has been involved in a claim suit during the last five years. During t same period, malpractice claims ha skyrocketed by almost 400 percent. addition, closed claim costs ha escalated by an alarming 135 perce during the last four years.

Among the topics to be covered in t seminar are the roles of the defense a plaintiff attorneys, the physician as a co witness, advantages and pitfalls medical record-keeping, proper i formed consent and dealing wi disgruntled patients.

Clyde Kurtz, M.D. said all physicians Arizona are encouraged to atte *"Knowing the Facts: Your Best Defense*

Continuing Medical Education (CM credits are offered for attendees. F registration information, contact: Mutu Insurance Company of Arizona, 24 North Central Avenue, P.O. Box 3318 Phoenix, Arizona 85067.

Jack E. Brooks, M.D.
President, MICA

Arizona
Medicine

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# Correspondence

*Editor—*

Medical liability problems have not disappeared despite the formation of MICA and the return to Arizona of two other malpractice insurance companies. Population growth and economic conditions are only two of the factors increasing our vulnerability. There are now more malpractice claims against physicians and significantly higher settlements.

As a past chairman and current member of ArMA's Underwriting Review Committee, I recognize a major contribution to this predicament is the poor and often illegible medical record. Incomplete and undecipherable medical records make malpractice claims difficult (sometimes impossible) to defend. Hasty scrawls and incomplete notes leave little for your advocates to utilize in your defense.

Some practitioners have an "ostrich-like" syndrome. They don't have a problem, the other guy does. These physicians solve their predicament by not reporting incidents. Doctor don't treat yourself. Cooperation with your insurance carrier can be one of the most important methods of practicing preventive medicine. Your insurance carrier is your advocate.

Most importantly, keep your medical records (office and hospital) readable, complete and honest. If multiple physicians are utilizing the same record, refer to it often and know what your predecessor recorded. If the current trend continues, you, your insurance company, and your attorney will be grateful for your complete and legible medical records.

Darwin W. Neubauer, M.D.
Tucson, Arizona

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# The Old Surgeon

Though not admitting to being passe,
Some limiting changes have come our way;
Though we may not be able to take a long walk,
There's nothing limiting our ability to talk!

By discussing the things we were once able to do,
We recall many things that are simply untrue!
An example of this are our surgical triumphs,
That restored life and vigor to our moribund clients!

We were called many times to salvage the cases,
Of colleagues who ultimately fell on their faces;
In attempting a skill that couldn't be matched,
On patients that *we* eventually patched!

With what ease we performed the impossible task!
Were we a genius? You need only ask!
More accomplished surgeons there never could be,
Fortunately few now remember the real surgical "We"!

P. B. Jarrett
Phoenix, Arizona

# *Briefly Noted*

## "What They're Saying"

### DIVIDED WE FALL

. . .I am also afraid that many of the movements present in our society may change the practice of medicine so that the medical ideals I cherish may be jeopardized. . .

Some good people are working very hard and important headway is being made. From my perspective unfortunately, not enough good people are working and not enough headway is being made. But we don't just need working hands. We need working hands with direction. Disorganized work results in fibrillation instead of strength. This is one reason why medical societies and organizations are important. Our ability to band together may well determine the future of medicine."

Richard Sperry, Editorial Board Studen
Member
Utah State Medical Association Bulletin
(1-82).

Speakers for Current Perspectives III: Surgical Problems in the Geriatric Age Group

Participants at Current Perspectives III

**William P. Tucker, M.D.**, of Florence was honored by the Florence Town Council on February 21, 1982, when the day was proclaimed "Dr. W. P. Tucker Day". Dr. Tucker retired from the practice of medicine December 31, 1981, having cared for the residents of Florence since his arrival in the community in 1942. He served as an active member of the Florence Town Council for more than 22 years, longer than any other individual has served.

**Watson M. Lacy, M.D.**, of Payson, well known for his years of work among Navajo Indians, provided medical care to Cambodian refugees in Thailand from September through December 1981. He and his wife, Ruth, a nurse practitioner, along with medical practitioners from throughout the world, cared for refugees at the Sakaeo Holding Center, a 1,600-acre refugee camp near the Cambodian border.

**James L. Schamadan, M.D.**, of Phoenix has been certified as a specialist in Occupational Medicine by the American Board of Preventive Medicine.

**Donald P. Speer, M.D.**, associ professor of Surgery in Orthopedic the University of Arizona College Medicine was awarded the John Charn Award by the Hip Society, international organization of orthope surgeons. Speer was honored for "innovative research" in one of the m children's diseases of the hip, slip capital femoral epiphysis.

**Jack M. Layton, M.D.**, head of Department of Pathology at University of Arizona, received the F Mostofi Distinguished Service Awar the International Academy of Patholo U. S. and Canadian Division, at academy's annual meeting in Boston. Layton was president of the academy's S. and Canadian Division in 1976-77.

ArMA President **Clyde W. Kurtz, M.** discussed "Getting the Most for Y Medical Dollar" at the Women Aw Program, a day-long seminar sponso by the Pima County Medical Soci Auxiliary on March 23, 1982, at University of Arizona Student Union.

**Dermont W. Melick, M.D.**, of Phoe spoke on "The Practice of Medicine Four Generations of the Melick-Do Family" at the Arizona Museum March 7, 1982. Dr. Melick's family hist began in Kansas 162 years ago. Melick's grandfather, Dr. Wesley Meli was a doctor on horseback in Misso before the Civil War, and his father, Prince Albert Melick, was a pion physician in Williams.

Medical History

# tracts from the
# iblications of the
# izona Medical
# sociation

### tinued)

n W. Kennedy, M.D.

this fifth installment we pick up the
in with the year 1923 and unravel it
ough 1926. Warner Watkins, editor of
*ithwestern Medicine* had just written
editorial "A Lovely Dream" (*Arizona*
*dicine*, Vol 38, No. 12, page 926) which
directed to county medical society
retaries wherever they may be. He
amed of having monthly reports from
se gentlemen to publish in the
rnal, which was published in the
erest of the county societies and the
ole southwest. He wrote, "At the
sent time there is not in Arizona, New
xico or West Texas a single secretary
ending to his duties. In Arizona, letters,
egrams and personal solicitations have
en to no avail."

it, by his own effort, and with his wife
sting as secretary he attended meeting
er meeting statewide. Dr. Watkins was
easily put off and without his
torship little of the medical history of
t era would be extant. Some of the
as that reported, although somewhat
egularly, were Yavapai County,
ricopa County, El Paso County,
avez County, New Mexico, Bernalillo
unty, Texas, St. Joseph's Sanatorium,
uquerque, St. Joseph's Hospital in
Phoenix, Deaconess Hospital in Phoenix, and St. Mary's Hospital in Gallup, New Mexico. Unfortunately from most of Arizona there was a great silence.

**Staff Meetings**

The medical community of Phoenix was saturated with meetings. The county society met the first and third Saturday evenings, St. Joseph's Hospital staff the third Thursday and the Deaconess Hospital staff the fourth Saturday. The county society meetings were devoted to scientific papers and the hospital meetings were, in the main, devoted to reporting and discussing cases. *(Can you imagine what would happen these days if a medical meeting was scheduled on Saturday evening?)*

A special feature of the March 8, 1923 staff meeting of St. Joseph's Hospital was the reading of replies from patients who were responding to follow-up letters sent after their discharge. If the patient made an unfavorable reply the attending physician was allowed to respond.

In a subsequent meeting Dr. Wilkinson reported a case of an unconscious male who gradually improved but had amnesia. Dr. Felch commented that the most interesting thing about the case was that the amnesia was financial. The patient wrote a letter of appreciation to the doctors who attended him, but said, "In his estimation, he owed them nothing, for had he been conscious he would not have had so many doctors!"

During the 1925 annual meeting of St. Joseph's Hospital in Phoenix, a motion was made and carried that the hospital provide a competent historian. This historian would take the personal histories of the admitted patient or complete the history if none was furnished by the admitting surgeon.

The Deaconess Hospital in Phoenix had a difficult time with histories too. A Dr. Shelby gave a detailed outline of what comprised a proper history and physical and Dr. Bannister gave a clinic on a complete physical examination *(Well at least they bit the bullet. I suppose many physicians were reluctant in those days to write a history as they are now.)* During the October staff meeting Dr. Frank Malloy presented a case of pellagra. *(When did you last see or suspect a case of pellagra?)*

In 1926 Dr. Roy A. Lukan became the resident house physician for the Sister's Hospital of Phoenix. It was reported, "The staff members are enjoying a great pleasure and profit from the assistance of Dr. Lukan in routine work in the hospital."

**County Society Meetings**

On March 16, 1923 the Pima County Medical Society met with 25 members present. There was a discussion of "Gaits of Nervous Lesions of the Spinal Cord."

A report states the Maricopa County Medical Society meeting of March 24, 1923 was a record breaker. It was held at the Business and Professional Women's Club, 17 East Monroe, 50 physicians were present, surgery of the chest was the subject, and Dr. Sweek orated on the treatment of empyema with "electrified air" and thoracoplasty. At their Saturday night November 18, 1923 meeting the Maricopa County Medical Society amended their bylaws, reducing their dues from $25 to $15 a year. Dr. Fred Holmes was elected President, Dr. J. M. Greer of Mesa, Vice-President, and Dr. H. L. Goss of Phoenix, Secretary. The newly elected President stated, "The men who attend are the ones who least need the instruction which is obtained here. The doctor with ostrich like obtuseness may not realize this, but an accurate analysis of the head contents would prove it." *(True even today.)* Two scientific papers were read, one on "Heliotherapy of Tuberculosis" and the other on "The use of Thoracoplasty," in the treatment of tuberculosis. *In fact, during this era most of, or a fair share of, the scientific papers published related to the diagnosis and treatment of tuberculosis. This was a great problem during that time.*

In 1924 it was reported that Dr. W. C. Hackett, a negro physician in Phoenix and a member in good standing of the county society, had been falsely accused by a prostitute, a dope fiend, who had been refused morphine by the physician. The society appointed a committee to assist him in every way to defend his name against the attack.

Dr. Frank J. Malloy was elected to membership and was remembered by his contemporaries for his frequent diagnosis of amoebic dysentery here in the Valley of the Sun.

A proposal for an act to authorize the court to appoint medical experts was discussed by Dr. Win Wylie. He related a Supreme Court decision in Michigan which stated such a law was unconstitutional. Dr. Wylie was a lawyer and a physician, and probably was one of the first in the state to have the combined degrees. Dr. Warner Watkins in discussing the paper stated, "I, like many doctors, resent being sworn, 'to tell the truth and nothing but the truth' and when this happens an objection is interposed and usually sustained, placing the doctor in a position in which it is impossible to be truthful." *(Fifty years later—no change.)*

Dr. W. V. Whitmore, a pioneer physician in Tucson, reported on "Anesthetics, Chloroform and Ether." He stated that during his 32 year practice in Tucson he had given 3500 anesthetics with two deaths.

The Yavapai County Medical Society meeting in Prescott reported on their sessions stating, "In the operation of our 'system' of post graduate study we are able to report greater enthusiasm, better attendance and more careful preparation of cases than in any other year." You will remember in 1923 they began discussing the Cabot Cases as their method of operation for "continuing medical education." They called their method the "Yavapai Plan." *(See Arizona Medicine, Vol. 38, No. 12, page 926).*

The Santa Cruz Medical Society met with eight members present and elected Dr. A. H. Noon president. And in Cochise County, Dr. Z. Causey was elected president for the year.

In 1925 the Pima County Medical Society elected Dr. S. C. Davis president and at the same meeting there was a kidney symposium presented by the Thomas-Davis Clinic. There were two applications for membership at hand. One of these was reported to be the Tucson abortionist. A request was made to the Board of Medical Examiners to investigate and consider revoking the license of the alleged abortionist. *(Oh, la-di-da, how times do change, now you can advertise if you want to do abortions).*

Dr. John W. Flinn of Prescott discussed the artifical pneumothorax and the treatment of tuberculosis. He stated that he had used the procedure for the last eleven years but, "In the treatment of tuberculosis there now abideth fresh air, good food, rest; these three, but the greatest is rest. Typhoid or bed pan rest." Dr. Warner Watkins in discussing this paper stated, "Dr. Flinn was a pioneer in seeing the need for, and implementing absolute rest in the treatment of tuberculosis." He further stated, "I believe I gave the first pneumothorax administration in the State of Arizona in 1912." Dr. Flinn's efforts in tuberculosis were again reported in the April 1926 issue. In a paper entitled "Allergy and Immunity in Tuberculosis Infection" he wrote, "The only really safe person is the one who has acquired a preventive vaccination in childhood with small doses of tubercle baccilli and so developing early and allergic reactions sufficient to lead to lasting immunity." This was the first paper in *Southwest Medicine* to contain a bibliography.

At the December 1925 meeting of the Maricopa County Medical Society the Board of Censors reported on charges against a member. After the presentation of charges there was considerable discussion, much voting by the members, and the member was suspended for a year. The charge was unjustifiable abortion contrary to the ethics of the profession and rules of the society. *(Warner Watkins told this story with a great deal more color than is recorded here, and of course, knew the suspected abortionist very well).* Watkins said the following year after the physician was reinstated in the county society he was nominated for and elected secretary-treasurer of the county society. Watkins thought this was a little unusual and following his instincts he gathered up the ballots and found that more ballots were cast than there were members present. He thought nothing more about it until the following year, when the secretary-treasurer went out of office he reported more funds in the treasury than had been collected. Watkins stated he never was able to solve the mystery. But, subsequently the physician who had been censored moved to California and became a teacher of obstetrics in a medical school!

The Cochise County Medical Society met January 16, 1926 at the Club-Social Agua Prieta with fourteen members present. The Cabot cases were discussed and A. E. Cruithards, Secretary was the reporter. *(The Yavapai plan was spreading)*

The fees of the County Society of Santa Fe, New Mexico which were adopted May 9, 1926 were published. They read as follows: "Anesthetic, $15; Surgical Assistant, $15; Night Calls, $5 and up; Out of town add $1 per mile—one way; Abdominal Surgery, $100; Tonsils, $50; Sulpharsephamine Injection, $5; Wasserman, $2.

**The Arizona Medical Association**

1923—The Association had so imagination in those days. They arran for a meeting at the Grand Canyon wi continuation on to the AMA meet which followed in San Francisco. roundtrip rail fare from Phoenix to Francisco by way of the Grand Can was to be $62.50. *(That would hardly your registration fee these days).*

R. D. Kennedy, M.D., F.A.C.S of Glo in his presidential address before Association, listed some of the mod medical men who paid with their lives investigating diseases. He listed, "Jesse Lazear, Yellow Fever; Ayersin Fr Muller, Bubonic Plague; All MacFayden, Typhoid and Malta Fever Everett Button, African Relapsing Fev Howard Taylor Ricketts, Fabardilo; a Thomas B. McClintor, Rocky Mount Spotted Fever." *(This address was give 1924 and no doubt the list could now considerably enlarged, such as Nogu Yellow Fever).*

In 1925 the Association met in Bisbee the first time since 1912. At that meeti the Association voted to have "d banquets in the future. *(There must h been some wet times in 1912.)*!

In 1926 the paid members of Association were as follows: Cochise Coconino 6; Gila 24; Greenlee Maricopa 77; Mohave 3; Navajo 8; Pi 38; Santa Cruz 7; Yavapai 13; Yuma There were a total of 211 paid membe the annual dues was ten dollars. *(Fi years later the ten dollars would har buy you a lunch at an annual meeting. of December 1981 the coun membership listing reads: Apache Cochise 35; Coconino 61; Gila 7; Grah 7; Greenlee 6; Maricopa 1721; Moha 37; Navajo 10; Pima 814; Pinal 38; Sa Cruz 8; Yavapai 58; and Yuma 55. T total being 2867).*

**Deaconess Hospital**

In 1923 it was reported that the work the Deaconess Hospital was going continue. It had been interrupted t years before, but now sufficient fun were available for completion. The Boa of Trustees of the hospital asked for advisory committee from the Marico County Medical Society to assist in t final planning and purchasing equipment. The committee consisted Dr. A. M. Tuthill, Chairman; Dr. Willa Smith; Dr. Kimball Banister; D. H. L. Go Dr. T. L. Garrison; Dr. Harland P. Mil Dr. J. J. McLoone, and Mr. J. O. Sexso Chairman of the Board of Trustees.

In 1924 Dr. Helen Slaughter w announced as the first intern Deaconsess Hospital. Mr. John Bowman, the first superintendent ar Mrs. Bowman, a nurse in charge surgery, resigned a year after the hospit an to operate. The management was n over by Mr. and Mrs. J. O. Sexson, was formerly Miss Rynyon. *(Nothing keeping all the business in one ly).*

### oseph's Hospital, Phoenix

1918 a fire destroyed the original St. ph's Hospital and the surgery was not ilt at that time. By 1924 the surgery four operating rooms, two special tment rooms on the east wing, on the nd floor and adjacent floor were the / and laboratory department, all ted at a cost of $40,000. In 1926 they pleted a new unit which supplied 20 tional rooms for private patients. The pital was now three stories high with levator, administrative offices and a rd room. *(Now St. Joseph's is rging again and I suppose $40,000 ldn't pay for the time and effort spent putting their need for additions ugh the local health planning ncil).*

### ert Sanatorium

nnouncement of the plans for the ert Sanatorium of Southern Arizona e made by Dr. Bernard L. Wyatt and ciates in 1926. The Sanatorium would for the surgical teatment of rculosis and heliotherapy. B. L. ton, M.D. of Tucson described the ding and room arrangements for the ents. There were two features not to found elsewhere. 1) A short wave ometer by which accurate surements of the ultraviolet, in trom units, could be recorded, and heliotherapy unit on the roof with square feet enclosed entirely with tz glass! *(Remember this was the era n ultraviolet was thought to be of t value in the treatment of rculosis).*

### uke's Home, Phoenix

June 1, 1924 the annual trek of the ents at the St. Luke's Home occurred. er the direction of Dr. E. W. Phillips, lical Director of St. Luke's Home, the ents were moved to the mountains of cott. *(Apparently this was an annual nt for several years, but this stigator has not been able to locate site of the Home. Would someone Prescott please come to my rescue give me a geographical picture).*

### e Hospital News

March 15, 1925 there was a fire at St. y's Hospital in Tucson. It had started e chapel, which was built in 1885. The nt of the damage was not reported.

hat same year the Arizona Hospital Sanatorium in Tucson changed its e to Tucson Hospital. Dr. Victor Gore, chairman, stated that a nurses ing school was to begin in the fall.

e ownership of the 25 bed Calumet pital in Douglas was transferred in from Dr. F. T. Wright to Dr. E. W. mson. One of the oldest hospitals in Arizona, it was opened in 1903 by Dr. Wright for industrial patients of the Calumet and Arizona Mining Companies.

In 1926 a published listing of hospitals in Arizona indicated there were twenty-one general hospitals with a total of 846 beds.

The Old Dominion Hospital of Globe added to its staff Dr. T. C. Harper, a graduate of the Medical College of the state of South Carolina in 1919. *(Dr. Harper a long time erudite and gracious practitioner retired and lived in Phoenix at the time his death in 1980).*

### Public Health

In 1923 Dr. Fred T. Fahlen was appointed State Superintendent of Public Health. He followed Dr. A. M. Tuthill who had resigned.

During the year 1925 a diphtheria epidemic was reported in Graham County. It first appeared in the Thatcher public schools. Dr. W. E. Platt, County Health Officer, seized upon the opportunity and immunized all of the school children in the county. There were 100 cases of diphtheria in four months, and 1650 school children and adults were immunized.

The first case of relapsing fever in Arizona was described in May 1925 by Dr. R. O. Raymond of Flagstaff and confirmed by the Hygienic Laboratory in Washington, D. C.

A 1926 editorial in *Southwest Medicine* bewailed the status of public health in Arizona. "The Territory of Arizona operating under its old vital statistics law had a full-time state health officer. When Arizona entered statehood the office of Superintendent of Public Health became one of the plums given to the faithful every two years. The result is we have had no public health work of note since statehood." *(Warner Watkin, Editor, called his shots as he saw them).*

### Physicians on the Move

1924—Dr. Mary Lawson Neff of Phoenix finally moved to Los Angeles with her practice. She was recognized as a psychiatrist of outstanding ability.

In April 1924, it was reported that Dr. Charles H. Laugharn, formerly of Salida, Colorado was now located in Morenci, Arizona. Dr. Laugharn's son, Dr. James Laugharn presently practices general surgery here in Phoenix.

1925—Dr. Victor Randolph moved from San Francisco to practice with Dr. Fred Holms in Phoenix. Their office was on the fourth floor of the Goodrich Building.

### The Father of Tularemia

It was reported in the June 1925 issue of *Southwestern Medicine* that Dr. Edward Francis, USPHS, in a letter to Dr. Ancil Martin dated April 25, 1925, gave Dr. Martin the credit for being the first to recognize that rabbit fever was transmissable to man, and he therefore proclaimed that Dr. Martin should henceforth be noted as "the Father of Tularemia."

Discussions on this subject continued in the 1926 volumes of *Southwest Medicine*. In his paper Dr. Martin stated, "On May 14, 1907 a jackrabbit came into a patient's yard in Glendale, Arizona. It was killed by a dog and the patient skinned the rabbit for the dog to eat and he, the patient, became ill 24 hours later." Previously, he had noted similar cases in Prescott in 1907, but none of them were recognized because tularemia as a clinical entity in humans had not been described. But, he did recognize that it came from diseased rabbits.

Dr. Ancil Martin's original paper presented before the Arizona Medical Association during its 1919 meeting in Prescott was titled "Infections of the Conjunctiva." It was published in *JAMA* in July 17, 1909 and he subsequently amplified this in *Southwest Medicine* Vol IX, No. 6, 1925.

Then Dr. Francis, of the Public Health Service worked out the relationship between rabbit fever and infection in man, but he gave Dr. Martin the credit for being the first to recognize that the disease was indeed transmissable.

By 1926 tularemia had become a diagnosable disease in the Southwest and a paper by Dr. M. B. Culpepper of Carlsbad, New Mexico reported ten cases and one death. The paper was discussed by Dr. Martin and he mentioned he had seen his first case in 1907 and six subsequent cases in 1909.

In the April 1926 issue of *Southwest Medicine* Dr. Ancil Martin discussed foreign bodies of the eye and x-ray localization. He stated, "Incidentally I brought the first Crooks tube to Arizona and with the assistance of an electrician hooked it up to an old static machine." But, he did not give the date, it appears that this must have been about 1898.

Roentgen had announced his discovery in November 9, 1895 and the x-ray was first used in this country by a professor Wusterberg at Harvard on January 31, 1896. The first removal of a foreign body following localization by x-ray was by Dr. James Burry on February 11, 1896 and the first recorded localization of a foreign body was by Francis H. Williams of Boston, June, 5, 1896. The Sweet localization method, which was a favorite for a great many years, was announced on November 27, 1898 and Dr. Ancil Martin localized and removed his first foreign body with this method on October 20, 1901.

A later issue of the year 1926 carried the obituary of Dr. Ancil Martin. He was born in 1861 and died in 1926. It was stated that in 1898 he brought the first x-ray tube to Arizona and in 1909 diagnosed four cases of conjunctivitis as being transmitted from rabbits which had rabbit septicemia as it was known at that time.

# ArMA Reports

**The minutes appearing in this section have been condensed. A complete copy of the minutes of any meeting will be mailed to any member requesting them.**

## HEALTH MANPOWER COMMITTEE

The Health Manpower Committee met on January 27,1982. Dr. Linkner reviewed the GMENAC report and stated the major conclusion of the report is there will be a surplus of physician by 1990. It was moved and carried to recommend to the Board of Directors that a subcommittee or ad hoc committee be established to develop methodology to assess the State's medical manpower based on demographics, population ratio and specialty mix.

Also reviewed was the update on the germaneness issue of a bill that includes provisions dealing with homeopathy and physical therapy. Utilization of physician extenders was discussed and it was stressed that physician assistants are responsible to the physician and that the malpractice responsibility rests with the physician. The final report of the Arizona Nursing Manpower Project was received and the following motion was made: It was moved and carried to inform the Board of Directors that the committee generally supports the final report of Arizona Nursing Manpower Project and recommends that the Arizona Medical Association participate in programs to increase nursing manpower.

The AMA concluded that it could not support an effort to establish an accrediting body to inspect and evaluate schools and to test graduates in the limited license fields.

Health manpower shortage areas are designated by health system agencies. The AMA has received a grant to work with local and state medical societies in placing physicians in shortage areas under the private practice option of the National Health Service Corps. The committee also discussed HB 2098 which would eliminate health planning agencies and the certificate of need process.

The committee discussed the opening of a new practice called Women's Health Care of Tucson. A nurse practitioner performs certain exams and testing without a physician's supervision. It was moved and carried to recommend to the Public Relations Committee that they consider a public education program on the wide variety of practitioners available so that patients can make decisions of choice on an informed basis.

The following pieces of legislation were discussed: SB 1037 removing the continuing education requirements from Podiatrists. SB 1058 is a major bill which could grant hospital privileges of podiatrists. It was moved and carried that the Health Manpower Committee support the efforts of the Legislative Committee regarding S.B. 1058. The Legislative Committee and the Arizona Hospital Association are advocating active non-support of the bill, and the position paper on podiatry is still supported. It advocates podiatry privileges based upon criteria in hospital bylaws. HB 2117, Midwifery; Repeal was discussed at great length. There are several unanswered questions regarding the impact of the bill as introduced. It was moved and carried to recommend to the Legislative Committee the HB 2117 be given active support by the Association. It was moved and carried to recommend to the Maternal and Child Health Care Committee that they address the issue of alternatives to physician delivery. HB 2211 will be referred to an ophthalmologist for review and no committee consideration will be made until a report is received. HB 2202 Naturopathic Board of Examiners, the Legislative Committee has supported the Health Manpower Committee's recommendation to seek repeal of the Naturopathic Board and its licensing and regulating authority. It was moved and carried to give active non support to HB 2202.

## MEDICAL ECONOMICS COMMITTEE

The Medical Economics Committee met on January 28, 1982.

The upcoming seminar on Real Estate planning was discussed as was the possibility of offering seminars on topics like estate planning and the use of computers. It was moved and carried to plan for a computer seminar to be held during January 1983. Staff was directed to investigate options available and to explore the possibility of national advertising.

It was moved and carried to accept the report on the Retired Lives Reserve Program for information only.

Dr. Daley was asked to work with staff on a report of the disability programs now offered by the Association and recommendations for change, if needed.

The committee reviewed the letters received from the specialty societies dealing with the medical fee schedule of the Industrial Commission of Arizona. Dr. Kurtz explained the efforts of the committee during the last few yea improve physicians' fees. Dr. Ch was asked to supply the committee cases which would demonstrate the reimbursement for internists and reluctance to accept industrial pati since there is no recognition for physician roles. Dr. Daley was aske supply data on how access is limite orthopods because of difficul experiences with ICA. Dr. Zeluff an Reed explained the concerns anesthesiologists. Dr. Mobley reque a letter from the anesthesiologists w would indicate that they do not c industrial patients even though the not want to accept them. The commi must act quickly since the Indus Commission meets in April or May does not give much prior mee notice.

The Board of Directors requested committee's review of the Wes Physicians Purchasing Association. issue will be discussed at their meeting.

## PHYSICIAN'S HEALTH COMMITT

The Physician's Health Committee on February 10, 1982. The follow items were discussed:

Review of Pending Cases—T chairman asked committee memb forward status reports on any case which they were involved either as c coordinator or contact person.

"Our Brothers' Keeper"—A list volunteers to show this film received.

Center for the Well-being of Hea Professionals—The committ reviewed and discussed materials fr this organization. It was determined t Mr. Robinson would pursue a possi workshop with the Center.

Triage Physician-of-the Month—T schedule of those participating in t service was received.

Meeting with Hospital Chiefs of Staf The minutes of the meeting held w Phoenix hospital chiefs of staff we received by the committee a discussed. It was determined that Bittker and Mr. Robinson schedule meeting with attorney Roger Kaufm to outline the activities of the committ as well as its desire to create ongoi in-hospital programs for the preventi recognition and treatment of t impaired physician and to determi whether Mr. Kaufman might ma himself available for future meetin with chiefs of staff throughout the st in order to more fully respond concerns and questions which mig arise.

vas also determined that a similar eting be set for the Tucson area.

. Stephen Scheiber reported to the nmittee on the medical school vities and the progress on the icide Project."

## AD HOC COMMITTEE ON EDICINE/BUSINESS COALITIONS

he Ad Hoc Committee on dicine/Business Coalitions met on bruary 11, 1982

. Kurtz briefly outlined the kground and development of the lition movement. He commented on earlier material and presented the mbers with additional information ently published in the *American dical News*. This material dealt with nges that have occurred at the onal level and might have some act on the counties' approach to gmenting medicine/business litions in their respective areas.

ere was a lengthy discussion about most appropriate ways to approach ustry, the group or groups who uld initially be included and whether coalition would best be formed on a nty-by-county or state level. The nmittee then took the following on: It was moved and carried that the dicine/business coalitions templated be carried on by the nty societies within their local area, the support of the Arizona Medical ociation. It was decided that all other isions, i.e., selection of a chairman each coalition, the groups to be uded in the discussion, etc., now lay the particular society involved.

was felt the committee had npleted its task and they would meet in in about three months to check on gress and see if any problems had n encountered.

## MATERNAL AND CHILD HEALTH CARE COMMITTEE

e Maternal and Child Health Care mmittee met on February 17, 1982. e following items were discussed:

y Midwifery Position Paper—The nmittee received and reviewed the ft position paper on lay midwifery ng with comments from committee mbers. After a lengthy discussion the nmittee edited and amended the draft sition paper. It was moved and carried ecommend to the Board of Directors t it adopt, as the position of the zona Medical Association on Lay dwifery, the statement attached eto, marked exhibit "A" and by this erence made a part hereof. *(A copy of s draft can be obtained from the ArMA ce).*

Current Legislation—The committee reviewed various bills, of appropriate interest to the committee, that are now before the legislature and any action being taken by ArMA's Legislative Committee. The following bills were received only: HB 2010, HB 2043, HB 2056, SB 1086, and HB 2389. The following bills were received and additional comments made or actions taken: HB 2400—This bill deals with maternal and child health services through the Department of Health Services, together with correspondence from Kent L. Bradt, Director of the Arizona Perinatal Trust and John R. Young, M.D. Dr. Michael Clement, as the Assistant Director of the Division of Family Health Services of DHS, indicated to the members that the bill currently includes no request for funding and that, if no funding is provided, it might well be best to withdraw the bill and resubmit next year. The committee received for information the action of ArMA's Legislative Committee to "Actively Support" this legislation.

HB 2117—A. This bill, which deals with the licensing and regulation of lay midwifery, as well as ArMA's Legislative Committee action of "Active Non-Support" was received. B. The committee reviewed a request from the Health Manpower Committee dated February 16, 1982, for this committee to "address the issue of alternatives to physician delivery." It was determined to seek clarification of this request from Dr. Laurence Linkner, Chairman of the Health Manpower Committee.

HB 2228—This bill, dealing with day care centers, which was not considered by ArMA's Legislative Committee, and thought by Dr. Clements to be primarily a "clean-up" bill.

SB 1025—The committee reviewed the bill, which relates to the use of child passenger restraint systems, as well as the determination of ArMA's Legislative Committee to "Actively Support" this piece of legislation and it was moved and carried to advise the Board of Directors of ArMA that the Maternal and Child Health Care Committee strongly supports the Legislative Committee's position of "Active Support" of SB 1025.

Subcommittee on Perinatal Health Care—Through correspondence from the Chairman of the Subcommittee on Perinatal Health Care, William J. R. Daily, M.D. the committee reviewed and discussed their recommendations relating to a statewide data system for improved perinatal morbidity and mortality review. Dr. Daily and Dr. Clement presented to the committee the need for a more comprehensive program within the Bureau of Maternal and Child Health of the Department of Health Services. Now all data available has been obtained on a home computer by one person and a need exists for a data tracking system which would give access to purchase of time from the state's data base and allow birth certificate/death certificate linkage for compilation of comprehensive data. The committee then took the following action: It was moved and carried the Maternal and Child Health Care Committee recommends to the Board of Directors that ArMA, by written communication to James E. Sarn, M.D., Director of the Arizona Department of Health Services, strongly support and recommend the development within the Bureau of Maternal and Child Health of a statewide data system for improved perinatal morbidity and mortality review. It was further moved and carried that, following receipt of a fiscal note from Dr. Daily, this committee recommend that ArMA seek to assist in the funding and development of outreach educational programs in order that the statewide data system could be truly effective in Arizona.

It was determined that the Association membership be made aware of the activities of the Arizona Perinatal Trust and be updated regularly about their programs.

## EXECUTIVE COMMITTEE

The Executive Committee met on February 19, 1982.

Dr. Sarn, Director of the Arizona Department of Health Services was not present at the meeting, but asked the committee be advised that the request for bids for the Administrator of the Arizona Health Care Cost Containment System (AHCCCS) would be going out in the coming week. The committee received a list of 16 physicians appointed to the various Ad Hoc Advisory Committees established to develop the rules and regulations for the AHCCCS, together with a brief outline of the functions and meeting time table for the committees. The Executive Committee determined to invite Henry Foley, Ph.D., the newly appointed head of the division of the Department of Health Services responsible for the implementation of AHCCCS, to its next meeting.

It was moved and carried that the annual meeting of the House of Delegates of the Arizona Medical Association for the years 1983, 1984 and 1985 be held on the dates and in the cities set forth below. With actual hotel locations within those cities to be selected by Bruce E. Robinson, subject to confirmation by this committee at a future date: 1983, May 20-21, Tucson; 1984, May 18-19, Phoenix; 1985, May 19-20, Phoenix.

It was moved and carried to advise the Guaranteed Weight Loss Clinic that their request to the American Medical Association for a certificate of approval of their program had been received by the Executive Committee of the Arizona Medical Association but that this Association does not issue certificates of this nature.

It was moved and carried to retain Richard R. Greenfield to assist with the drafting of rules and regulations for the implementation of the Arizona Health Care Cost Containment System (AHCCCS).

It was determined that Mr. Robinson should request the firm of Lawrence-Leiter & Co., to prepare a summary of the recommendations it made subsequent to its recent review of ArMA activities.

## NOMINATING COMMITTEE

The Nominating Committee met on February 20, 1982. The committee reviewed those sections of the Bylaws pertaining to elections and candidate selection. They received and discussed nominations from the membership for the various offices to be filled during the 1982 Annual Meeting of the House of Delegates. It was moved and carried to approve the 1982 slate of candidates for offices to be filled during the May Annual Meeting of the House of Delegates as set forth on Exhibit "A" attached hereto and by the reference made a part hereof.

**Exhibit A**

**President-Elect (1982-83)**
Neopito L. Robles, M.D.
Wilber C. Voss, M.D.
**Vice President (1982-83)**
Earl J. Baker, M.D.
Derrill B. Manley, M.D.
**Secretary (1982-83)**
Richard L. Collins, M.D.
Peter H. Nutley, M.D.
**Treasurer (1982-83)**
Gary L. Henderson, M.D.
Thomas M. Foreman, M.D.
**Speaker of the House (1982-83)**
Robert A. Price, M.D.
Robert B. Leonard, M.D.
**Editor-In-Chief (1982-83)**
Marshall B. Block, M.D.
Thomas F. Hartley, M.D.
**Delegate to AMA**
**(1/1/83-12/31/84)**
William C. Scott, M.D.
Arnold I. Hollander, M.D.
**Alternate Delegate to AMA**
**(1/1/83-12/31/84)**
Joseph S. Whaley, M.D.
Nick J. Mansour, Jr, M.D.
**Central District Director**
**(1982-85)**
John K. Kerr, M.D.
Walter J. Nieri, M.D.
**Central District Director**
**(1982-85)**
Wilfred M. Potter, M.D.
James R. Meador, Jr., M.D.
**Northwestern District Director**
**(1982-85)**
**(Coconino, Mohave, Yavapai)**
Wayne E. Beck, M.D.
Charles A. Trahern, M.D.

## FINANCE COMMITTEE

The Finance Committee met on March 6, 1982. The following items were discussed.

Use of ArMA Meeting Rooms—This subject was discussed at some length and the following motion was made. It was moved and carried to recommend to the Board of Directors that it adopt a policy of charging for the use of meeting rooms in the Association's building, such charge to be made to all groups except ArMA committees and boards, the ArMA Auxiliary and county medical societies; the charge to be based on time and space, that is, a fixed dollar amount per room for up to four hours; the specific dollar amount to be determined by the Executive Director. A lead time of four months is to be allowed so that those groups currently holding reservations will have an opportunity to make other plans, should they so choose.

Heating and Cooling Proposal—The proposal by Honeywell Incorporated and J. B. Rodgers Company to alter the present heating and air conditioning system was presented. The estimated cost would be approximately $16,000, with savings running to $5,000 per year with a total payback in a little over three years. It was moved and carried to proceed with the proposal to alter the present heating and air conditioning in the Association building as outlined and submitted by Honeywell Incorporated and the J.B. Rodgers Company.

Western Physicians Purchasing Association—It was moved and carried to recommend to the Board of Directors that ArMA no longer sponsor the Western Physicians Purchasing Association.

Guidelines for Executive Committee Contingency Fund—It was moved and carried to refer the guidelines for use of the Executive Committee Contingency Fund back to the Executive Committee for more specificity.

It was moved and carried to appro the 1983 Association budget appended to these minutes. *(A copy c be obtained from the ArMA office)* Wh considering the scholarship gra program lengthy discussion ensued a it was moved and carried to recomme to the Benevolent and Loan Fu Committee that it consider changing t grant program to a loan program so th these monies could be returned to t Association for future use.

## Future Medical Meetings

The following institutions and organizations h been accredited for their continuing medi education programs by the Liaison Committee Continuing Medical Education

Arizona Chapter, American Cancer Society
Arizona Heart Institute
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona
Lung Association
Walter O. Boswell Memorial Hospital
Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St Joseph's Hospital & Medical Center, Phoe
St. Luke's Hospital & Medical Center, Phoeni
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program
(THMEP) Tucson
University of Arizona College of Medicine,
Tucson
Veterans Administration Medical
Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations ab produce a variety of continuing medical educat programs Each accredited institution a organization is responsible for designating which these programs meet ArMA's requirements Category 1 credit. Physicians who participate programs which are designated Category 1 accredited institutions will receive Category 1 cre toward the ArMA Certificate in CME and the AM Physician's Recognition Award.

## APRIL

**Family Assessment**
April 17. Camelback Inn, Scottsda Sponsor: Camelback Hospitals. Contact: Bernard Makowsky, Scottsdale Camelba Hospital, 7575 East Earll Drive, Scottsda Arizona 85251. Approved for hour per h Category 1 credit.

**n American Cataract & Intraocular Lens
mposium**
ril 17-19. Scottsdale Hilton. Sponsor:
ierican Society of Contemporary
hthalmology and the Sight Foundation.
ntact: The Sight Foundation, Inc., 10503
underbird Blvd., Ste 9, Sun City, AZ 85351.
proved for 16 hours of Category 1 credit.

**iining in Structural Family Therapy**
ril 17-21, 1982. Sponsor: Philadelphia
ild Guidance Clinic and Arizona Family
arning & Communications Center.
ntact: Arizona Family Learning &
mmunications Center, Metro Medical
za, Ste B403, 3201 W. Peoria Ave.,
oenix, Arizona 85029. Approved for
tegory 1 credit on an hour per hour basis.

**Annual Update
mary Care**
ril 20-24. Arizona Health Sciences Center,
cson. Sponsor: U of A College of Medicine.
ntact: Office of Continuing Medical
ucation and Outreach, U of A Health
iences Center, Tucson, AZ 85724.
proved for hour per hour Category 1
dit.

**zona Academy of Family
ysicians, 4th Annual Lake
ge-Powell Educational Expedition**
ril 21-25. Page, Arizona. Sponsor and
ntact: Arizona Academy of Family
ysicians, 8534 E. Amelia, Scottsdale, AZ
251.

**zona Society of Allergy Symposium**
ril 23. Camelback Inn, Scottsdale,
onsors: Scottsdale Memorial Hospital and
zona Society of Allergy. Contact: Merle S.
ierr, M.D., 7331 E. Osborn Dr., #350,
ottsdale, Arizona or Thomas F. Hartley,
D., 7514 E. Monterey Way, Scottsdale,
zona 85251. Approved for hour per hour
tegory 1 credit.

**oratory Diagnosis in Allergic Diseases**
ril 23, Scottsdale Memorial Hospital,
ysicians Conf Rm., 12:30 p.m. Sponsors:
ottsdale Memorial Hospital, Arizona
ciety of Allergy. Approved for hour per
ur Category 1 credit.

**rasound for Clinicians**
ril 24-25. Doubletree Inn, Scottsdale.
onsor: American Institute of Utrasound in
dicine, Phoenix, Ultrasound Society, and
erican Academy of Family Physicians.
proved for 8 hours of Category 1 credit.

**uthwestern Cardiovascular Symposium**
ril 30-May 1. Hyatt Regency, Phoenix.
onsor: St. Luke's Hospital and Medical
nter. Contact: Christine Campbell,
dical Meeting Planner, St. Luke's Hospital
Medical Center, Phoenix, AZ 85006.
proved for hour per hour Category 1
dit.

## MAY

**ntroversies in the Management
Neoplastic Thyproid Nodules**
y 4. Desert Samaritan Hospital, Mesa
zona. Sponsor and Contact: Desert
maritan Hospital & Health Center, CME
ice, 1400 South Dobson Road, Mesa,
zona 85202. Approved for hour per hour
tegory 1 credit.

**Advanced Cardiac Life Support Recertification/Provider Course**
May 13-15, 1982. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affilate of the Amer. Heart Assoc., ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Clinical Seminar Series "Trauma"**
May 15, 1982. Phoenix. Sponsor: Univeristy of Arizona College of Medicine. Contact: Office of Continuing Medical Education and Outreach, U of A Health Sciences Center, Tucson, Arizona 85724. Approved for hour per hour Category 1 credit.

**Diagnosis and Treatment of Bronchospastic Syndromes**
May 18. Desert Samaritan Hospital, Mesa Arizona. Sponsor and Contact: Desert Samaritan Hospital & Health Center, CME Office, 1400 S. Dobson Rd., Mesa, Arizona. Approved for hour per hour Category 1 credit.

## JUNE

**Long Term Management of Post-Myocardial Infarction Patients**
June 8. Desert Samaritan Hospital. Sponsor and Contact: Desert Samaritan Hospital & Health Center, CME Office, 1400 South Dobson Road, Mesa, Arizona 85202. Approved for hour per hour Category 1 credit.

**Desert Samaritan Hospital—Hawaiian CME Meeting**
June 19-26. Kauai, Hawaii. Sponsor: Desert Samaritan Hospital. Contact: Office of CME, Betty Wood, Desert Samaritan Hospital 1400 S. Dobson Road, Mesa, Arizona 85202. Approved for 20 hours of Category 1 credit.

### ADVANCES IN GASTROENTEROLOGY

**June 26, 1982**
**Golden Nugget Hotel**
**Atlantic City, N. J.**

**Fee:** $125 **Residents in Training:** $75

**Course Description**

The purpose of this course is to provide the primary care practitioner, internists and gastroenterologist with an updated approach to the diagnosis and treatment of gastrointestinal illnesses.

Pathophysiology will be emphasized. The course is sponsored by the Gastrointestinal Section of the Hospital of the University of Pennsylvania and the Department of Medical Education of Underwood Memorial Hospital,

Category I credit offered.

**For More Information call:**
Registration Supervisor, Charles B. Slack, Inc., 6900 Grove Road, Thorofare, N.J. 08086, (609) 848-1000.

### HEALTH EFFECTS OF LOW LEVEL EXPOSURE TO RADIATION

**A Comprehensive Symposium**
**August 22-27, 1982**
**Snow Mountain Ranch, Colorado**

During each day of this symposium, in-depth discussions will be presented on data concerning the health effects of radiation, critical analyses of studies contributing to these data, standards for protection against radiation, nuclear power and its alternatives, problems of waste disposal, cost/benefit and risk/benefit analyses, etc. Although all topics will be explained in depth, no particular background in the subjects will be required of participants. On some evenings, general sessions of interest to attendees and spouses will be presented on topics such as x-ray mammography, Three-Mile Island, truths and fallacies concerning radiation exposure, etc. Ample time for discussion of topics will be included in the program.

Snow Mountain Ranch is a 2500 acre mountain resort located in Arapahoe National Forest near Rocky Mountain National Park. The resort caters to family lodging at reasonable prices, and provides extensive recreational facilities such as tennis, swimming, and roller skating. Organized youth programs and craft classes will be available each day. Transportation to and from Denver will be coordinated by meeting organizers.

Registration for the symposium is limited, and reservations will be accepted on a first-come, first-served basis. Further information is available from:

**Office of Post Graduate
Medical Education
University of Colorado
Health Sciences Center
4200 E. Ninth Avenue (#C-295)
Denver, Colorado 80262
(303) 394-5241**

**(CME credits have been applied for from the AMA and ABHP).**

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doctors Hospital, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

**Office Psychiatry for the Primary Provider**
2nd Monday of month, 4811 N. 7th Street, Phoenix, AZ. Sponsor: Arizona Health Plan. Contact: T.R. Bittker, M.D., Box 5000, Phoenix, AZ 85010. Approved for Category 1 credit.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Phoenix Psychiatric Council. Contact: James E. Campbell, M.D., 5051 N. 34th St., Phoenix, AZ 85018. Approved for 2 hours Category 1 credit.

**Monthly Meeting of Tucson Radiologists**
Last Tues. of month. Plaza International, Tucson, AZ. Sponsor: U of A Medical Center, Dept. of Radiology. Contact: Irwin M. Freundlich, M.D., U of A Health Sciences Center, Dept. of Radiology, Tucson, AZ 85724. Approved for 2 hours Category 1 credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix: 1st Tues.—Phoenix Indian Hospital, 2nd Tues.—Maricopa County Hospital, 3rd Tues.—Good Samaritan Hospital, 4th Tues.—St. Joseph's Hospital. Sponsor: Maricopa County Hospital (Phoenix Hospital's Affiliated Pediatric Program). Contact: J. Kipp Charlton, M.D., 2601 E. Roosevelt, Phoenix, AZ 85008. Approved for 1 hour per session Category 1 credit.

**Review of Forensic Pathology**
**Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,000, Phoenix, AZ 85064. Contact: Ravi Koopot, M.D.
**Clinical Conference**
**Cardiovascular Medicine**
Third Tues., 5:15 p.m., second floor classroom

## ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 85008. Contact: Arnold L. Kendall, M.D.
**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. Rm., Contact: Dr. Conger & Staff
**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Services Bldg., Conf. Rm.
**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg Conf. Rm.

## BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St Joseph's Hospital & Medical Center. Contact: John R. Green, M.D. Approved for 1 hour Category 1 credit.
**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.
**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and third and 5th, Eighth Floor Conference Room.
**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurology conference room.
**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.
**Neuro-opthalmology Conference.**
Weekly, 7:30 a.m., 8th floor conference Rm.
**Neuropathology of Gross**
**Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.
**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conference Rm.
**Neuropathology or**
**Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conference Rm.
**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference Rm.
**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, ED.D., Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, July, Sept. & Nov.
**Tumor Board**
Last Thursday of the month, 12 Noon, Educ. Center Classroom I & II, May, July, Sept, & Nov.
**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: T. F. Reid, Jr., M.D.
**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for category 1 credit.
**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West End.
**Clinical Conference — Dept. of Medicine**
Weekly Thurs., 12:30-1:30 p.m. Buffet Lunch, Grande Rm.
**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.
**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2

## DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.

**Physicians Continuing Education Program**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

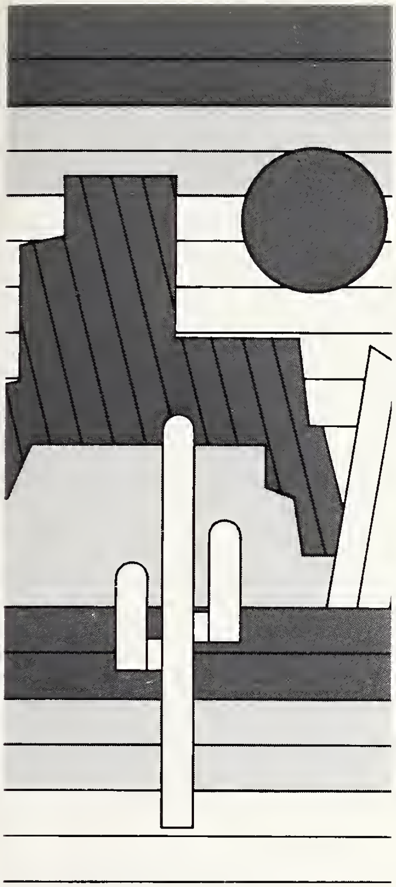
1400 N. Wilmont Road, Tucson, AZ 857
Contact: Eric G. Ramsay, M.D. Approved
Category 1 credit.
**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Se
and December) Contact: R. Grossman, M
**Surgical Department Meeting**
3rd Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 12
Flagstaff AZ 86002. Contact: B.
Hirschberg, M.D., CME Program Clini
Conference. Approved for category 1 cre
**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.
**Clinical Conferences**
Weekly Tuesdays, 12:30 p.m., Tollefson F
**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf. F
**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf. F

## GOOD SAMARITAN HOSPITAL

1033 East McDowell Rd., Phoenix,
Contact: W. J. Howard, M.D. Approved
category 1 credit.
**Anatomical Path. & Cytology**
Weekly, Mondays 4:00-5:00 p.m., S-4 C
Rm.
**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., West Rm
**Monday Noon Conference**
Weekly, 12:00-1:00 p.m. R-2 Conf. Rm.
**Mortality/Morbidity, Surgery Comm.**
2nd Monday, 11:30-2:00 p.m., West Rm.
**Obstetrical Section Conference**
1st Monday, 12:30-1:30 p.m., West Rm.
**Pulmonary Disease Grand Rounds**
Weekly, 12:00-1:00 p.m., D-5 North
**Family Practice Conference**
Weekly, Tuesday, 12:00-1:00 p.m., Fa
Practice Conf. Rm.
**Pediatric Grand Rounds**
3rd. Tuesday, 7:30-8:30 a.m., Contact: P
Bergeson, M.D.
**Phoenix Plastic Surgery**
**Residency Conference**
Weekly, 5 p.m.-6 p.m., Education Buildi
Contact: Robert McGregor, M.D.
**PM & R Noon Inservice**
2nd & 4th Tuesday, 12 Noon, R-2 Conferen
Rm.
**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., West R
Contact: John A. Bruner, M.D.
**Combined Cardiovascular & Family Practi**
**Conf.**
lst, 2nd, & 4th Wed., 12:00-1:00 p.m., D
North.
**Learning Disabilities**
Weekly, 10:30-12:30 p.m., R-2 Conf. Rm.
**OBGYN Dept. Review & Statistics**
Weekly, 12:30-3:00 p.m., OBGYN Conf. R
**Gynecological Pathology**
Weekly, Thursday, 1:00-2:00 p.m., S-4 Co
Rm.
**GI Radiology Conference**
1st Thursday, 12:00-1:00 p.m., F15
Radiology Conf. Rm.



## SOUTHWESTERN CARDIOVASCULAR SYMPOSIUM

sponsored by Departments of Cardiovascular Surgery and Cardiology, St. Luke's Medical Center, Phoenix, Arizona

**April 30 — May 1, 1982**

The Hyatt Regency Hotel, Phoenix

**Guest Faculty:**

E. STANLEY CRAWFORD, M.D., Professor of Surgery, Baylor College of Medicine, Houston, Texas. JAMES S. FORRESTER, M.D., Professor of Medicine, UCLA School of Medicine, Los Angeles, California. DONALD C. HARRISON, M.D., President, American Heart Association; Chief, Cardiology Division, Stanford University School of Medicine, Palo Alto, California. VOLKER SCHLOSSER, M.D., Professor and Chairman, Department of Cardiovascular Surgery, University of Freiburg, Freiburg, West Germany. MARKO TURINA, M.D., Professor and Chairman, Department of Cardiovascular Surgery, University of Zurich, Zurich, Switzerland. JURO WADA, M.D., Professor and Chairman, Department of Cardiovascular Surgery, Tokyo Women's Medical College, Tokyo, Japan. ERNST WOLNER, M.D., Professor and Chairman, Second Surgical Unit, University of Vienna, Vienna, Austria.

**Symposium Co-Chairmen:**

George Bandy, M.D., Cardiology
Cecil C. Vaughn, M.D., Cardiovascular Surgery

**For additional information, contact:**

Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center
525 N. 18th Street, Phoenix, Arizona 85006
(602) 251-8402

**enix Ultrasound Soc. Meeting.**
dical Education Building, Contact: Dr. n Ora

**urology Grand Rounds**
ekly, Thursday, 9:00-10:00 a.m., D-5 rth.

**gical Grand Rounds**
ekly, 7:00-8:30 a.m., Education Building, ntact: Dr. Gilsdorf

**mor Treatment Planning Conf.**
d & 4th Thursdays, 12:00-1:00 p.m., F151 diology

**nt Tumor Gyn Conference**
d Friday, 12:30-1:30 p.m., West Rm.

**dical Grand Rounds**
ekly, Friday, 8:00-9:00 a.m., West Rm.

**uropathy Conference**
st Friday, 1:15-2:15 p.m., S-4 Morgue.

**chiatry Grand Rounds**
ekly Friday, 11:30-1:00 p.m., East Rm.

## KINO COMMUNITY HOSPITAL, (THMEP)

0 E. Ajo Way, Tucson, AZ. 85713. Contact: c C. Ramsay, M.D., Approved for Category redit.

**dical Conference**
ekly, 12:30 p.m., Contact: Chief Medical sident.

**gical Connference**
ekly, Mondays, Contact: R. Fischer, M.D.

**dical Conference**
ekly, Monday, 12:30 p.m.

**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.m., Contact: J Wurzel, M.D.

**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chief Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.

**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.

**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.

**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz Room

**Obstetrical Problem Conference**
Weekly Tuesday, 7:30 a.m., Yavapai Rm.

**Orthopedic Conference**
Weekly Tuesday, 7:30 a.m., Santa Cruz Rm.

**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.

**Urology Discharge Planning Conference**
Weekly, 11:30 a.m., Station 42

**Hand Surgery Conference**
Weekly Wed, a.m., Santa Cruz Rm.

**Neurosurgery Discharge Planning**
Weekly Wed., 1:30 p.m., Station 42.

**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.

**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental Health Annex, Rm. 1346.

**Surgery Conference**
Weekly Wed., 7-8 a.m., Surgical Dept.

**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.

**Cardiology Conference**
Weekly Thurs., 2 p.m., Santa Cruz Rm.

**OB/GYN Resident Conference**
Weekly Thurs., 12 p.m., Yavapai Rm.

**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Rm.

**OB/GYN Surgical Pathology Conf.**
Weekly Friday, 7:30 a.m., Yavapai Rm.

**Orthopedic X-Ray Conference**
Weekly Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: Daniel J. Kuntz, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N 20th Ave., Phoenix, AZ 85015. Contact: Burr Ross, M.D., Approved for Category 1 credit.

**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.

**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for category 1 credit.

**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.

**Clinical Staff Teaching Conference, Rm. A.**
Wed. Weekly, 7:30-8:30 a.m.

**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact: N. Wendell Tood, M.D.

**Family Practice/Emergency Room Teaching Conference**
Thursday Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.

**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.

**Clinical Conferences**
Weekly Tuesday, 12:30 p.m., Kiva Conference Rm.

**Tumor Board Conference**
Weekly Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.

**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge

**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge

**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge

**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge

**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge

**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge

**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge

**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge

**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge

**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lounge

**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lounge

**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lounge

**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.

**Genetics Conference**
Weekly Monday, 12:30 p.m., Pediatric Department.

**Pediatric Rounds**
Weekly Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.

**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.

**ECG Conference**
Weekly Tuesday, 12:30 p.m., Pediatric Department.

**Medical Grand Rounds**
Weekly Wednesday, 8 a.m., 1st Floor Conf. Room.

**Visiting Professor Formal Presentation**
Weekly Thursday, 8 a.m., PIMC

**Visiting Professor Informal Presentation**
Weekly Thursday, 9:30 a.m., 1st floor Conf. Rm.

**Visiting Professor Formal Presentation**
Weekly Thursday, 12:30 p.m., PIMC

**Nephrology Conference**
Weekly Fridays, 12:30 p.m., Pediatric Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contact. Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact. Wm. Moteforte.

**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact. Kim Sowards.

**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.

**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contact: S. Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ, Contact: Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly Monday, 12:15 p.m., Auditorium

**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditorium

**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium

**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium

**Cardiovascular-Thoracic Record Revie**
3rd Wednesday, 12:15 p.m., Auditorium

**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips Auditor

**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium

**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium

**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium

**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium

## ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85
Contact: see below.

**Monthly Specialty Conference — Dept. of Surgery**
1st Monday, 7:30 a.m., Century Rm.
Contact: Med. Staff Office.

**Grand Rounds: Medical Surgical, Fa Practice, Pathology, Radiology**
Weekly Thursday

**Emergency Medicine Lectures**
Weekly Thursday, 8 a.m., Century Room

**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm.

**Cardiology Conference**
Weekly Friday, 8:00-9:00 a.m., Century
Contact: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716. Contact: Eric G. Ramsay, M.D. Approve Category 1 credit.

**Cardiology Conference**
Weekly Monday, except last, 12 N
Contact: M. Maximov, M.D.

**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. M
M.D.

**Endocrinology Conference**
Last Monday, 12 p.m., Contact M. Par
M.D.

**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Loh
M.D.

**Surgical Dept. Conference**
2nd Monday, 12 Noon: Contact: C. P
Crowe, Jr., M.D.

**Chest Conference**
1st Tuesday, 12 noon, Contact: Will
Nevin, M.D.

**Hematology Conference**
4th Tuesday, 12 Noon, Contact: M. Bo
M.D.

**Infectious Disease Conference**
3rd Tuesday, 12 noon, Contact: B. Friedm
M.D.

**Nephrology Conference**
2nd Tuesday, 12 noon, Contact: Dr. Selt

**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay K
M.D.

**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact:
Lightner.

**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Fo
M.D.

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**plus faculty members from St. Luke's Medical Center**

sponsored by St. Luke's Hospital Arthritis Program
St. Luke's Medical Center, Phoenix

Sanford H. Roth, M.D., Program Medical Director and Seminar Chairman

**Approved for 12 hours of CME credit, category 1**

For additional information, contact
Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center, 525 N. 18th Street
Phoenix, Arizona 85006 (602) 251-8402

**inical Pathology Conference**
ıst Wednesday, 8:00 a.m., Contact: Dr. ıchs.

**mily Practice Meeting**
d Wednesday, 12:30 p.m., Jan., April, July, Oct. Contact: C. Mangelsdorf, M.D.

**edical Conference**
eekly Wednesday, 8:00 a.m., Contact: M. ıchs, M.D.

**eurology-Neurosurgery Conference**
eekly Wednesday, 12 noon, Contact: H. W. ıschsbaum, M.D.

**ermatology Conference**
t Thursday, 12 noon, Contact: R. Friedman, D.

**euroradiology Conference**
eekly Thursday, 5:00 p.m., Contact: N. ɔmar, M.D.

**ımor Conference**
eekly Thursday, 12 noon, Contact: Cancer ɔmmittee.

**ılmonary/Infectious Disease ase Conference**
d Thursday, 7:30 a.m., Contact: William evin, M.D.

**—I Conference**
eekly Friday, 12 noon, Contact: George erriħard, M.D.

**terhospital Nuclear Medicine Conference**
eekly Friday, 7:15 a.m., Contact: S.V. Hilts, D.

**B/GYN Conference**
t Friday, 7:30 a.m., Contact: Charles Parker, D.

**B/GYN Pathology Conference**
d Friday, 7:30 a.m., Contact: R. Spark, M.D.

### PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

**GI X-Ray Clinical Correlation Conf.**
1st & 3rd Monday, 1 p.m., Rm. C435, Contact: Drs. Sanowski, & Nielsen.

**Medical/Surgical GI Conference**
1st & 3rd. Mondays, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.

**GI Pathology Conf.**
2nd. & 4th Monday, 1 p.m., Path Conf. Rm, Contact: Dr. Sanowski..

**Orthopedic Surgery Conference**
2nd. Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.

**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 2128, Contact: Dr. Mertz & Dr. Lanard.

**Vascular Conference**
2nd Monday, 3 p.m., Rm. 3134, Contact: Dr. Clintora

**GI Grand Rounds**
Weekly Tuesday, 1 p.m., Contact: Drs. Sanowski, Kozarek, after GI Grand Rounds Rm T-5.

**Housestaff Pulmonary Disease Teaching Conf.**
Weekly Wed., 3-4 p.m., Rm. 4115, Contact: Dr. Rohwedder, Ext. 388.

**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habibzedeh

**Medical Surgical Chest Conference**
1st & 3rd Thursday, Contact: Dr. Rohwedder or Dr. Gill.

**GI Consultant Rounds**
1st Thursday, 1:30 p.m., Rm. T-5.

**Medical Service Grand Rounds**
Weekly Friday, 11 a.m., Rm. T-5, Contact: Dr. Zeller

**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

### PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.

**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

### TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.

**Medical Surgical Chest Conference**
Weekly Tuesdav. 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.
**Surgical Grand Rounds**
Weekly Wed., 4:00 p.m., Contact: Dr. Putnam
**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.
**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.
**Vascular Radiology, Interesting Case Conf.**
Weekly Thursday, 12:00 noon.
**Neurology Grand Rounds**
Weekly Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for category 1 credit.
**Radiology Conference**
1st Tuesday, 7:00 a.m.
**Operation Outreach**
2nd Tuesday, 6:30 p.m.
**Pathology Conference**
4th Tuesday, 7:00 a.m.
**Operation Outreach**
2nd Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for category 1 credit.
**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.
**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly Thursday, 4-5 p.m., Room 5403.
**Anesthesiology Case Discussion**
Weekly Wed., 7:00 a.m., AHSC, Dining Rm. C&D.
**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.
**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center.
**Cardiac Catheterization Conference**
Weekly Friday, 4:00 p.m., Contact: Dr. Temkin.
**Cardiology Research Conference**
Weekly Tuesday, 7:30 a.m., Contact: Dr. Roeske.
**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn.
**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.
**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505. Contact: Jerry Goldstone, M.D., Dept. of Surgery.
**Dermatology Conference**
4th Monday, 5:15 p.m., AHSC, Contact: Dr. R. Friedman.
**Dermatology Rounds**
Weekly Wed., 11:30 a.m., Contact: Dr. Lynch.
**Endocrinology Seminar**
Weekly Thursday, 12-1 p.m., Contact: Dr. Johnson.
**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contact: Dr. Sanders.
**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus.
**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter.
**Head & Neck Tumor Management Conference**
Weekly Wed., 4:00 p.m., Contact: Dr. Manning.
**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.
**Medical Grand Rounds**
Weekly Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.
**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contacts: Drs. Hughes & Alcorn.
**Neuromuscular Disease Conference**
Weekly Friday, 11:30 a.m., Contact: Dr. Stern.
**Neuropathology Case Review**
Weekly Friday, 8:30 a.m., UAHSC, Dr. P. Johnson.
**Neuroradiology Conference**
Weekly Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson.
**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.
**Neurosciences Seminar**
Weekly Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford.
**Nuclear Medicine**
Weekly Thursday, 7:30 a.m., AHSC Radiology Conference Rm.
**OB/GYN Lectures**
Weekly Friday, 1 p.m., AHSC, Contat: Dr. C.D.Christian.
**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler.
**Ophthalmology Retina Fluoro. Conference**
Weekly Thursday, 5 p.m., AHSC, Contact: Dr. H. Cross.
**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.
**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.
**Pathology Conference**
Weekly Monday, 12 noon, AHSC, Contact: Dr. C.D. Christian.
**Pathology Seminar**
Weekly Friday, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley.
**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.
**Pediatric Grand Rounds**
2nd, 4th & 5th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.
**Pediatric Problem Patient Conference**
Weekly Wed., 8:00 a.m., Contact Dr. Walson.
**Pediatric Research Forum**
Weekly Tuesday, 7:30 a.m., Contact: Dr. James Jones
**Pediatric Specialty Conference**
Weekly Friday, 8:00 a.m., Contact: Dr. Ph
Walson.
**Psychiatric Grand Rounds**
Weekly Wednesday, 5:30 p.m., AHSC,
8403, 5th Floor Auditorium.
**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr.
Levenson, Palo Verde Hospital.
**Pulmonary Rounds**
Weekly Friday, 11:30 a.m., Contact:
Benjamin Burrows.
**Chest Radiology**
Weekly Monday, 5-6 p.m., Rm. 15
UAHSC. Contact: Irwin M. Freundlich, M
Dept. of Radiology.
**Neuroradiology Teaching Conference**
Weekly Wednesday, 7:30 a.m., AH
Contact: Dr. Christenson
**Radiation Oncology Planning Conferenc**
Weekly Friday, 8:30-10:00 a.m., AHSC,
0655
**Radiology Interesting Case Conference**
Weekly Thursday, 12:00 noon, AH
Contact: Dr. Freundlich.
**Radiology-Rheumatology Conference**
Weekly Thursday, 7:45 a.m., UAHSC, Libr
Rm.1535C.
**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact:
Nagle.
**Residents Noon Conference**
Weekly Tuesday & Thursday, 12:00 no
AHSC, Contact: Dr. A. Greensher.
**Resident's Conference**
Wednesday, weekly 5-6 p.m., Di
Radiology Conf. Rm.
**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AH
Contact: Dr. Wangensteen.
**Surgical Morbidity & Mortality Conferen**
Weekly Wed., 8:00 a.m., Contact:
Wangensteen.
**Joint Thyroid Conference**
1st & 3rd Tuesdays., 1-2:00 p.m., AHSC,
6505, Contact: S. C. Werner, M.D.
**Trauma Conference**
Thursday,4:00-5:00 p.m.. AHSC, Rm. 550
**Toxicology Conference**
Weekly Tuesday, 8:00 a.m., Contact: Dr. Ke
Likes.
**Tucson Ultrasonography Group**
Weekly Wed., 4:30 p.m., AHSC, Contact: D
Freundlich.
**General Urology Conference**
Weekly Tue. & Thurs., 12:00 noon, AHS
VA Hospital Contact: Dr. G.W. Drach.
**Vascular Surgery Conference**
Weekly Tuesday, 4-6 p.m., AHSC, Conta
Dr. J. Goldstone.

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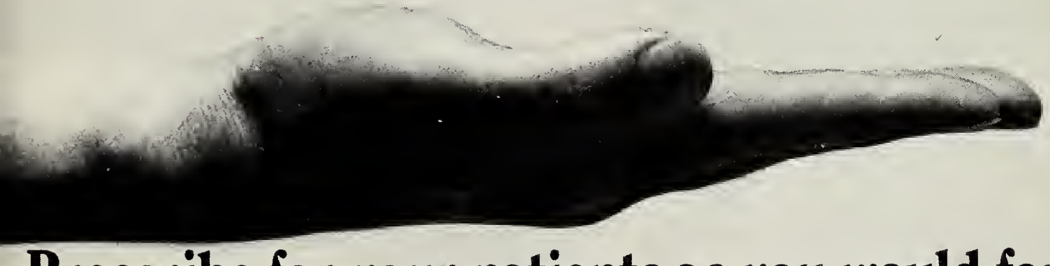

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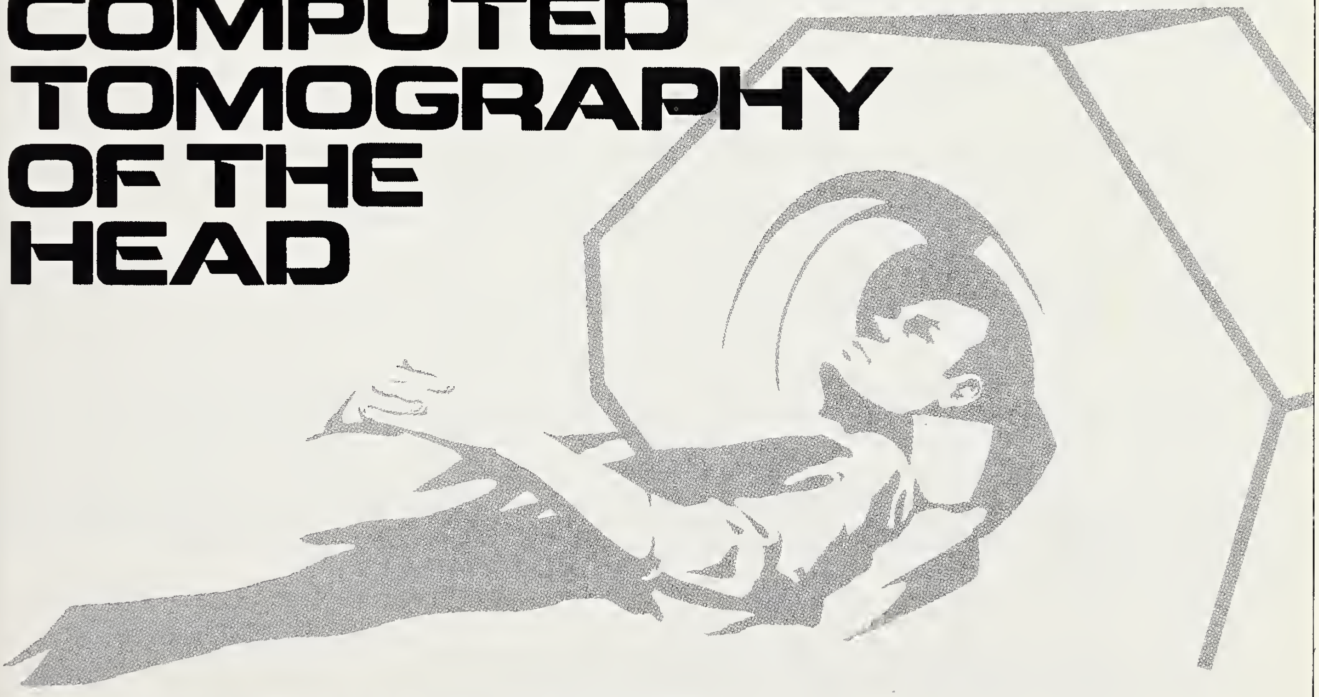

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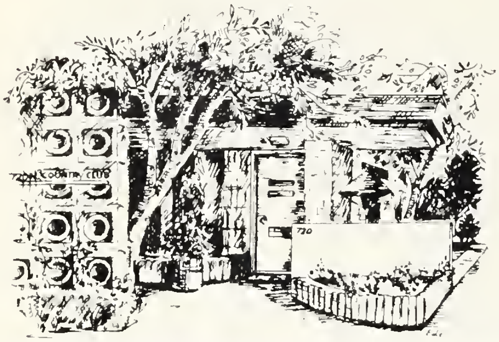

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THE PATIENT THINKS
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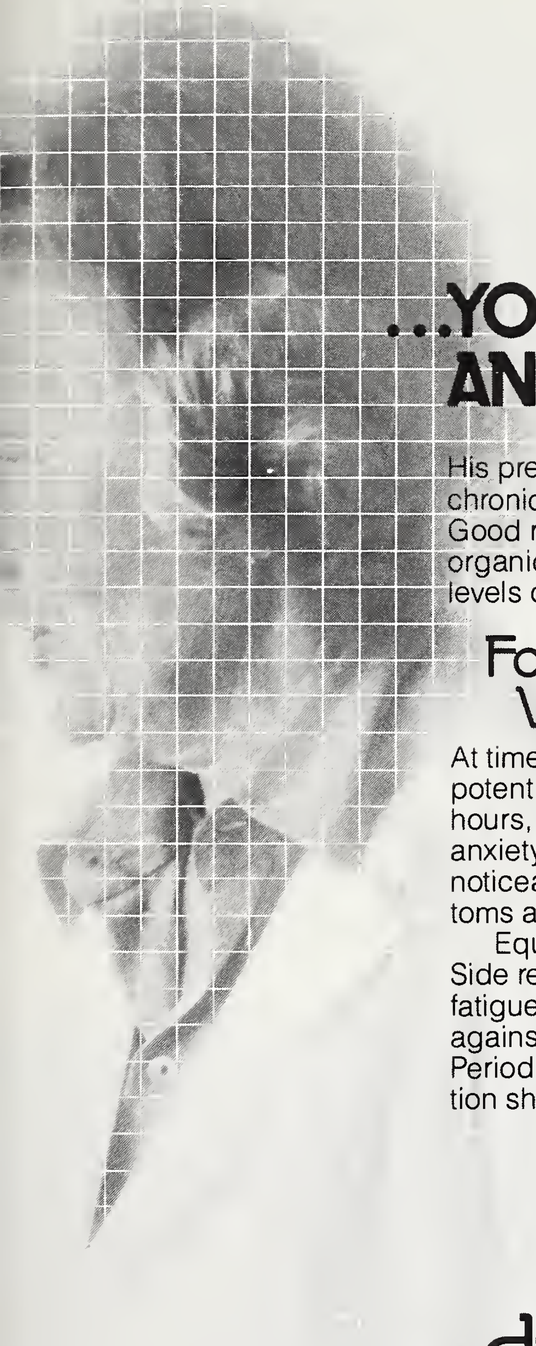

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**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures Advise against simultaneous ingestion of alcohol and other CNS depressants Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months After extended therapy, gradually taper dosage Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation. The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear
**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation. slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.
**Dosage:** Individualize for maximum beneficial effect. *Adults.* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d to q i d , alcoholism, 10 mg t.i d. or q i.d. in first 24 hours, then 5 mg t.i.d or q i d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t i.d or q i.d ; adjunctively in convulsive disorders, 2 to 10 mg b i d. to q i d *Geriatric or debilitated patients* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated (See Precautions ) *Children.* 1 to 2½ mg t.i d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).
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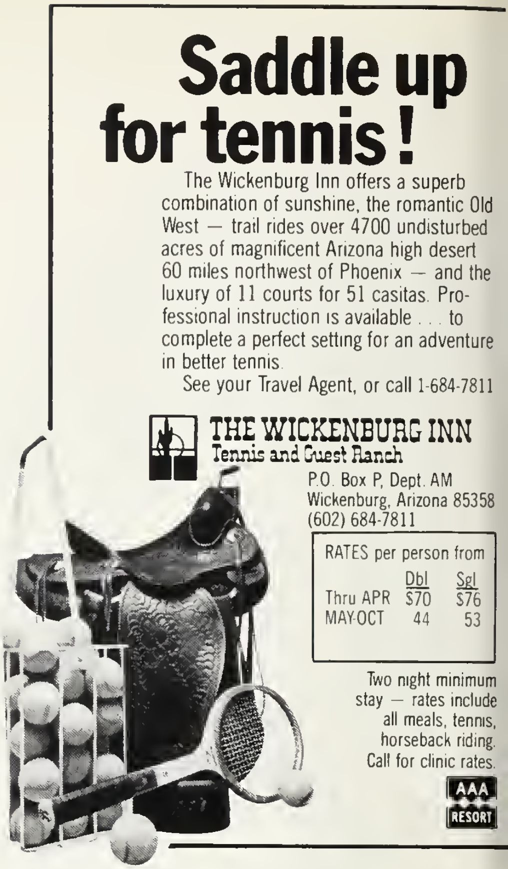

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Please see next page for a summary of prescribing information

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| Pheniramine maleate | 12.5 mg |
| Nicotinic acid | 50.0 mg |

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**PRECAUTIONS:** Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of Ru-Vert who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

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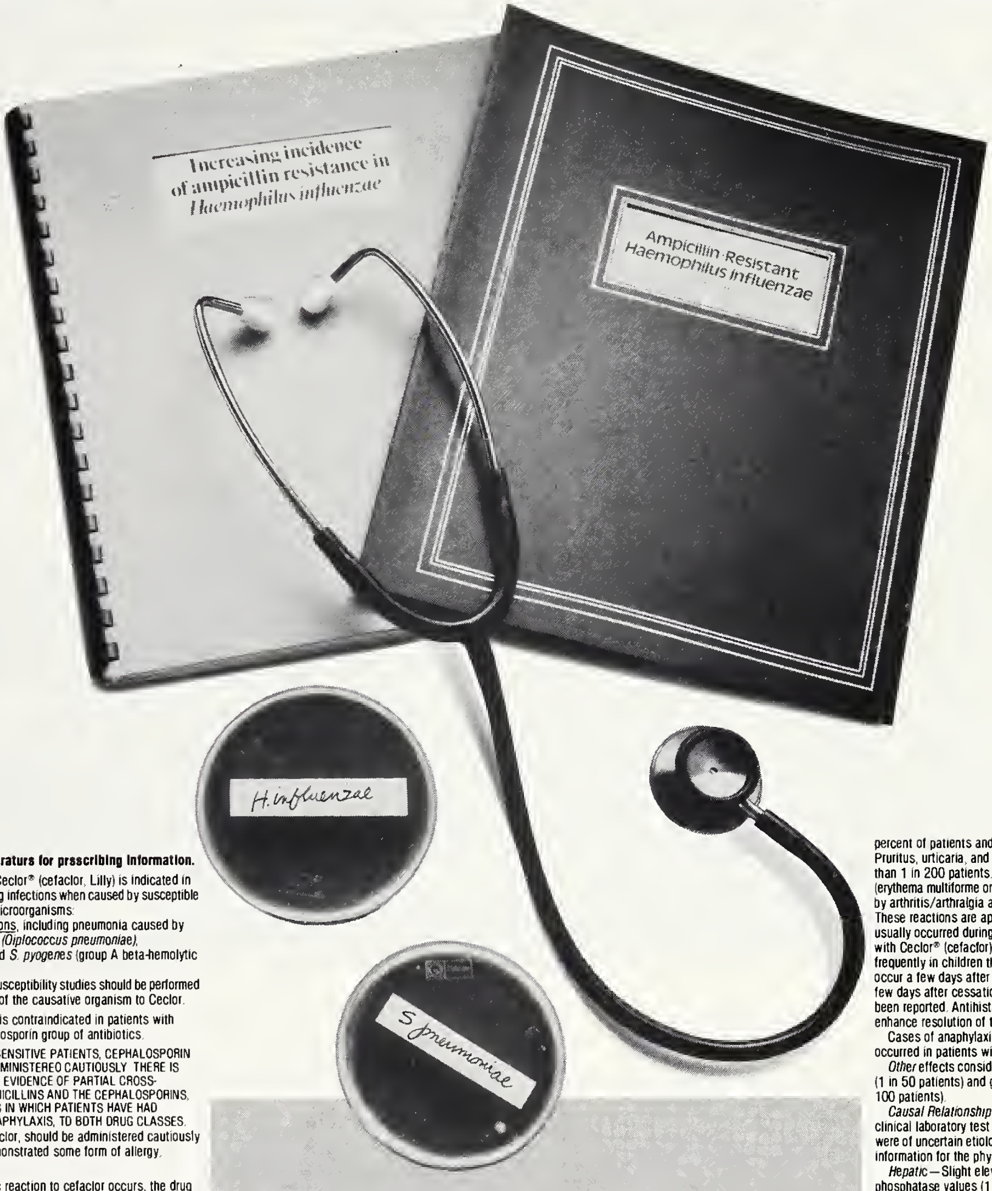
# An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin-Resistant Haemophilus influenzae
H. influenzae
S. pneumoniae

**Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]**

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

**Ceclor®**
**cefaclor**
Pulvules®, 250 and 500 mg

**Brief Summary.**
**Consult the package literature for prescribing information.**

**Indications and Usage:** Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

**Contraindication:** Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

*Usage in Pregnancy*—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

*Usage in Infancy*—Safety of this product for use in infants less than one month of age has not been established.

**Adverse Reactions:** Adverse effects considered related to cefaclor therapy are uncommon and are listed below.

*Gastrointestinal* symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor.

*Hypersensitivity* reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

*Note:* Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

**References**

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Lilly

*Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.*

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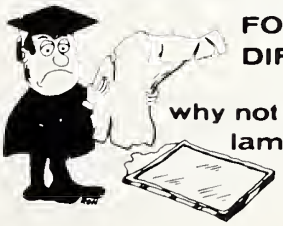

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# College of Medicine Issue

The College of Medicine, its faculty and students, is a treasured and unique resource for the state of Arizona. Those of us functioning in this education and research enterprise feel a strong responsibility to the practice of medicine in Arizona. For the fifth consecutive year the Editor has seen fit to invite faculty to offer presentations in *Arizona Medicine*. Robert M. Anderson, M.D., Associate Dean for Continuing Medical Education and Outreach, working with the faculty, has again selected medical topics which emphasize newer developments and the 'cutting edge' of excitement in clinical medicine.

Not only does this issue of *Arizona Medicine* include important presentations based on information and experience gleaned in the southwest, it highlights several very practical nuances on understanding diagnosis and therapy. Additionally, I am particularly pleased to call your attention to the paper which surveys the graduates of the University of Arizona College of Medicine. In November of 1981 we hosted the first ten year class reunion. It was an exciting event indeed. Many of the class returned to share real world experiences. It was particularly exciting to visit with graduates who now practice in Arizona and enhance the already excellent health care system. It is with pride that I invite you to read this issue of *Arizona Medicine*.

Louis J. Kettel, M.D.
Dean, College of Medicine

# iagnostic Uses and Pitfalls f Computed Tomography and ltrasound in the Abdomen nd Pelvis

m B. Hunter, M.D.
ai Haber, M.D.
hn C. Bjelland, M.D.
rald D. Pond, M.D.

## troduction

In the last few years computed tomography (CT) and trasound (US) have revolutionized diagnostic imaging. hese modalities have had their most dramatic effects in he diagnosis of intracranial disease (CT) and in the anagement of obstetrical (US) and gynecological roblems (CT, US). They have recently been applied to a ide variety of abdominal and pelvic problems as well as aving very useful and specific applications in skeletal, pinal, chest, and neck diseases. Their widespread cceptance has been due to their ability to display ormal and abnormal anatomy with greater clarity, ease, nd less patient risk than other procedures. evertheless, they are not infallible and are subject to a umber of limitations. The usefulness as well as mitations and pitfalls of these modalities will be eviewed in this article. It is especially important, owever, for the referring physician to be aware that the elative merits of CT, ultrasound, nuclear medicine udies, angiography and other radiographic exams are ependent on available equipment and local expertise.

## Computed Tomography

CT consists of computer enhanced *transverse* images of the abdomen oriented as if one views the anatomy from the patient's feet. "Slices" are obtained from every 5 mm to every 2 cm from the xiphoid to the symphysis. At the Arizona Medical Center (AMC) all studies of the abdomen and pelvis are monitored by a staff radiologist. A 1% to 10% solution of Gastrografin, Hypaque or equivalent is always given orally prior to the exam to opacify bowel loops. CT's great usefulness comes from its superb ability to distinguish between solid, cystic, vascular, calcified and fatty lesions. Intravenous contrast is frequently administered to visualize blood vessels, heighten vascular lesions or increase negative contrast

**Table 1**
**Relative CT Numbers**

| | |
|---|---|
| +500 | Barium, Metal |
| +100-200 | Calcium |
| +15-60 | Soft Tissues |
| 0 | Water |
| −15-+15 | Various Fluids |
| −50 | Fat |
| −500 | Air |

These are only approximate values as seen on a General Electric 8800 unit They will vary from patient to patient and from machine to machine. Water is arbitrarily set at 0 for calibration purposes.

**Table 2**
**Uses for CT in Evaluation of the Liver and Biliary System**

A. Evaluation of space-occupying lesions
    1. Initial detection
        a. Number, size, extent, type
        b. Response to therapy
    2. Differentiation of lesions detected by other means
        a. Primary and secondary neoplasms
        b. Cysts, abscesses, hematoma
B. Determination of the extent of liver injury in acute trauma
    1. Detection of liver lacerations and/or hematomas
    2. Evaluation of structures contiguous to the liver
C. Obstructive jaundice
    1. Demonstration of obstructing masses
    2. Detection of dilated ducts
    3. Evaluation of the pancreas and retroperitoneal structures
D. Guidance for percutaneous needle biopsy or aspiration

---

rom: The Department of Radiology, University of Arizona Health ciences Center, Tucson, Arizona 85724. Reprint requests to: Tim B. lunter, M.D., Department of Radiology, University of Arizona Health ciences Center, Tucson, Arizona 85724.

### Table 3
### Uses for CT in Evaluation of the Peritoneum and Retroperitoneum

A. Peritoneum
  1. Detection of free or loculated ascites
  2. Detection of peritoneal and mesenteric tumor implants

B. Retroperitoneum
  1. Evaluation of abdominal masses
  2. Staging of lymphomas and other neoplasms
  3. Evaluation of renal and perirenal abnormalities
    a. Detection and differentiation of masses
    b. Determination of hydronephrosis and level of obstruction

C. Pancreas
  1. Detection of pancreatic masses
    a. Primary neoplasm
    b. Pseudocyst
    c. Inflammatory solid mass (phlegmon)
  2. Evaluation of jaundiced patient
  3. Differentiation of pancreatic from parapancreatic masses
  4. Confirmation of mass found on other studies

D. Evaluation of tumor response to therapy

E. Detection of retroperitoneal hematoma or abscess

F. Guidance for abscess drainage, needle biopsy or needle aspiration

G. Diagnosis and staging of tumors involving uterus, adnexa, bladder and prostate

H. Evaluation of pelvis and hips in cases of trauma with complex fractures

of relatively avascular areas. Numeric data (CT numbers) can be obtained easily for any given area on the scan. These numbers (Table 1) are useful for distinguishing between various tissues but are *not* histologically specific. The radiologist monitoring the study can vary the image presentation on the television screen and then record the images on a 14 x 17 inch film format. Patient studies can also be stored indefinitely on magnetic tape.

CT is of particular use in the evaluation of space occupying liver masses (Table 2). The relative merits of CT, ultrasound and nuclear medicine in discovering and evaluating liver masses are uncertain. It is the authors' subjective impression that the present "fourth generation" of CT machines gives the best evaluation of liver lesions with ultrasound being second and nuclear medicine third. Angiography is felt to be necessary to detail vascular supply whenever extensive surgery is contemplated for a hepatic mass. Any mass lesion within the abdomen and pelvis that contains gas should be considered an abscess until proven otherwise. It should be noted that *abscesses* anywhere within the body *can present* with *significant radiologic findings* and *not be initially associated with obvious clinical signs and symptoms* (such as elevated WBC and fever) (Figure 1).

CT is quite useful in the evaluation of obstructive jaundice (Table 2). It not only readily visualizes dilated, obstructed ducts well but frequently displays the nature

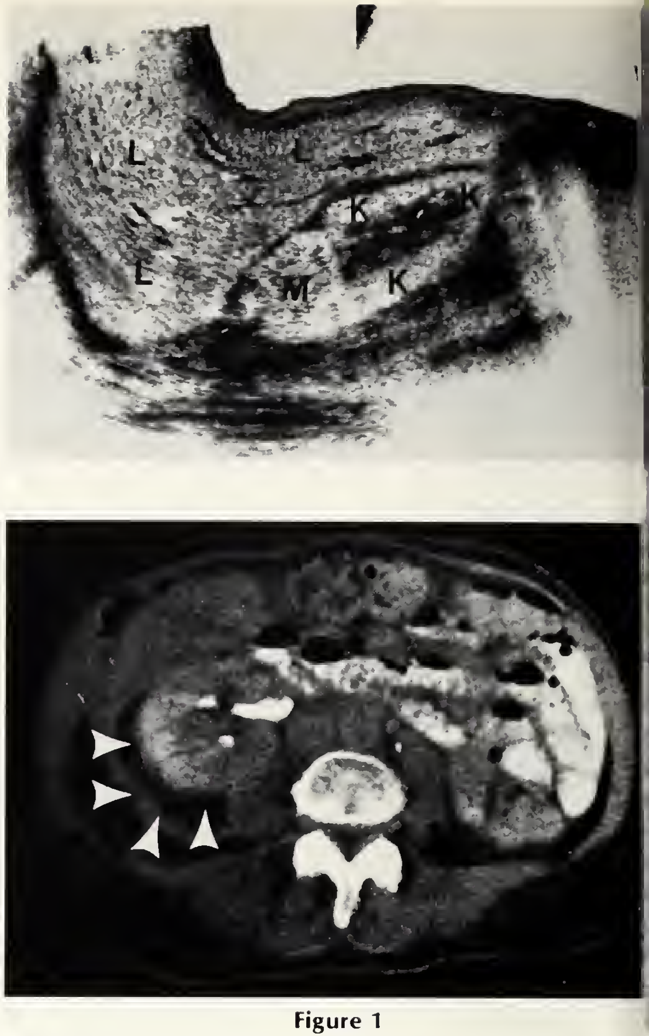

**Figure 1**

**Sixty-year-old diabetic female with vague abdomi**
**symptoms. An ultrasound performed to examine t**
**gallbladder and pancreas revealed an unexpected mass in t**
**superior portion of the right kidney. A. Longitudinal sonogr**
**of right lobe of liver (L) and right kidney (K). Notice solid m**
**(M) in superior portion of right kidney. B. CT scan through ar**
**of right kidney. The mass in the upper portion of the kidn**
**contains both fluid and gas, and extends outside the re**
**capsule (arrowheads). This was proven to be a perineph**
**abscess. The patient had NO fever, flank tenderness**
**elevated WBC.**

and location of the obstruction. There is no consiste
agreement in the literature as to the relative place of C
ultrasound, radionuclide biliary studies, ERCP ar
transhepatic cholangiography (THC) in the work-up
obstructive jaundice. We prefer to initially scre
patients with a non-invasive exam (usually ultrasour
because of its ease and ready availability; CT ar
radionuclide biliary studies are also excellent screenir
methods). If this is unequivocally positive and if surgic
intervention is comtemplated, more invasi
procedures (THC or ERCP) are used to define th
pertinent anatomy and pathology better. If th
screening study is unequivocally negative, no furth
radiologic work-up is usually performed. If th
screening exam is equivocal or if there is strong clinic
evidence for extrahepatic obstruction despite a negati

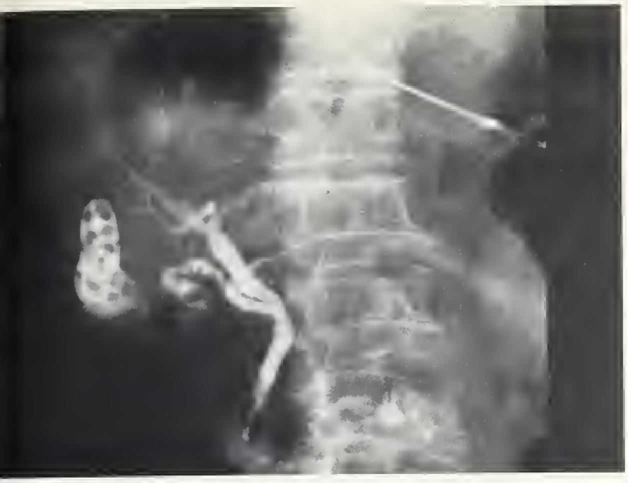

Figure 2
ty-seven-year-old male with three weeks of continuous
less jaundice (total bilirubin as high as 13.Omg/100ml). A
shepatic cholangiogram revealed multiple gallstones in
gallbladder and cystic duct. Presumably the common bile
was intermittently obstructed by passing stones. Note
e is NO bile duct dilation.

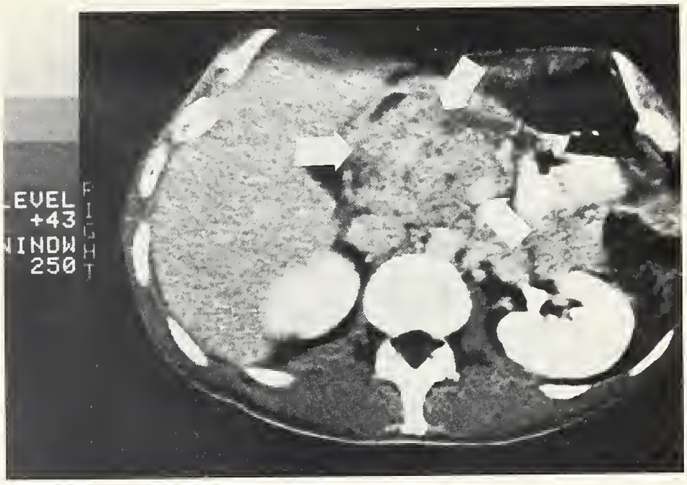

Figure 3
Thirty-five-year-old male with long history of alcohol abuse. CT showed a large solid mass in the head of the pancreas (arrows). This proved to be phlegmonous inflammation at surgery.

ening study, more invasive exams will be used. One
d of caution is necessary. CT and ultrasound rely on
t dilatation to diagnose biliary obstruction. In rare
ances significant biliary obstruction can be present in
absence of dilated bile ducts (Figure 2).

T is of particular use in imaging retroperitoneal
ctures such as the spleen, pancreas, aorta, inferior
a cava and kidneys (Table 3). It is the preferred
hod at AMC for detection of primary
operitoneal malignancies, staging of lymphomas and
luation of possible retroperitoneal abscess or
norrhage. When the CT study or ultrasound is of
od technical quality and shows a normal sized, well
lined pancreas, there is a low likelihood for a
creatic malignancy.[1] With current equipment it is
ikely a small carcinoma within the confines of a
mal sized pancreas can be detected with either CT or
asound. CT is an excellent means for needle
iration techniques because it generally provides the
t display of abdominal and pelvic anatomy.[2]
wever, it suffers from two distinct disadvantages in
regard: a) it is time consuming and clumsy, and b) it
elatively expensive. If the abnormality to be aspirated
biopsied can be adequately visualized by ultrasound
conventional fluoroscopy, these techniques are
ferred.

T has considerable usefulness in detecting pelvic
normalities and in staging and evaluating pelvic
oplasms or other masses. It frequently provides the
st visualization of abnormalities involving the uterus,
dder, adnexa and prostate.[3] However, it cannot
ays adequately stage the extent of neoplastic spread,
pecially in cases of microinvasion of continguous
uctures or involvement of lymph nodes by neoplasm.[3]

hen evaluating lymph nodes by CT and ultrasound,
internal architecture of the nodes is not adequately
ualized and a given node is called normal or abnormal
merely on the basis of its size. In general nodes less than 1 cm in diameter are called normal and those greater than 1 cm are felt to be abnormal.[4] This is reasonably accurate but small nodes can be involved by malignancy while enlarged nodes can be benign. If a node has a size 2 cm or greater it is usually always involved by tumor.[4]

CT has little usefulness in the evaluation of the gallbladder or evaluation of diffuse liver disease. Initial evaluation of the gallbladder is best done with ultrasonography and oral cholecystography. CT can be useful to determine the extent of neoplasm invading the mesentery or adjacent organs but it is not indicated for the detection of mucosal lesions. This is the prime responsibility of standard GI series.

There are three main sources of radiologic error: a) observer error—either the abnormality is "missed" or misdiagnosed if visualized, b) poor radiographic technique, and c) limitations inherent in the procedure—the given study simply is unable to image a specific abnormality no matter the quality of the study or the ability of the observer. Table 4 lists the sources of frequent CT errors. To be especially noted is the absolute necessity for placing contrast (oral and/or rectal) in the bowel. Unopacified bowel loops frequently resemble masses. Abdominal CT is practically useless if contrast cannot be placed in the bowel. Fluid collections can be partially evaluated by CT numbers but since they are not histologically specific there can be confusion in distinguishing between blood, clear fluid and abscess collections. Some cyst fluids will have a high CT number and some neoplams will become necrotic enough to resemble cysts. Contrast may at times be placed in the bladder and/or a tampon inserted in the vagina to better define pelvic anatomy. A soft tissue non-cystic mass in the liver, spleen, pancreas, retroperitoneum or mesentery does not necessarily mean neoplasm (Figure 3). CT can basically identify the mass but cannot categorize its exact histology.

### Table 4
### Computed Tomography Errors, Artifacts and Problem Areas

A. Common errors
  1. Slices in wrong location or too spread apart
  2. Confusion between unopacified bowel loops and abdominal masses
  3. Incorrect diagnosis of cyst versus solid
  4. Incorrect diagnosis of a fluid collection: cyst versus hematoma versus abscess versus tumor necrosis
  5. Improper recognition of normal variants

B. Frequent disturbing artifacts and limitations
  1. Poor tissue plane distinction (thin patients, children)
  2. Respiratory motion
  3. Metallic-like artifacts (barium in the bowel, large calcifications, numerous surgery clips)
  4. Patient motion

C. Potential problem areas
  1. Diffuse sheet-like infiltrating neoplasms
  2. Mass lesions having texture similar to bowel or parenchymal organs
  3. Small non-expanding masses in parenchymal organs
  4. The presence or absence of neoplasms in lymph nodes

### Table 5
### Indications for Abdominal and Pelvic Sonography

A. Evaluation of the gallbladder for calculi

B. Evaluation of the liver for presence, size and type of sp occupying masses

C. Evaluation of retroperitoneum and pelvis
  1. Pancreas—detection and evaluation of masses
  2. Detection and staging of uterine, adnexa and pro masses
  3. Staging and follow-up of abdominal lymphoma

D Peritoneum—detetion of ascitic fluid and tumor nod

E. GU tract
  1. Renal mass evaluation
  2. Detection and evaluation of hydronephrosis
  3. Renal transplant evaluation
  4. Evaluation of renal trauma

F. Obstetrical and gynecologic uses
  1. Fetal monitoring—evaluation of age, numbe fetuses, viability and fetal malformations
  2. Guidance for amniocentesis
  3. Evaluation of labor problems and benign malignant gynecologic disease

G. Abdominal Aorta
  1. Initial screening for presence, size and extent of a aneurysm
  2. Periodic follow-up of previously diagnosed aneu

Table 4 also lists frequent CT artifacts and potential problem areas. Note that respiratory motion can degrade a study significantly. Our scanner has a nine second scan time and the patient must be able to breath hold for this time to produce a usable study. If the patient is unable to cooperate or is a very young child, respiratory and body motion can totally render a study meaningless. In these circumstances general anesthesia may be required. Thin patients and children especially have poor tissue plane distinction and frequently are better studied by ultrasound. Obese patients and those with large abdominal wounds, on the other hand, are best studied by CT. Metallic clips are a frequent source of image degradation due to the "spraying artifact". Diffuse sheet-like spreading neoplasms in the abdomen or pelvis may be completely overlooked despite the presence of considerable tumor mass overall. No single area of neoplasm has a large enough mass effect to be visible.

**Ultrasound**

Abdominal and pelvic ultrasound has many of the same uses as does CT. Ultrasound is especially advantageous in that it uses no ionizing radiation, can image in any plane (as opposed to CT which is mainly limited to transverse images), is more rapid and convenient, and less costly (Tables 5, 7). It is quite excellent for evaluating liver masses and is the procedure of choice to determine whether a known mass in the liver, pancreas, kidney, abdomen or pelvis is cystic or solid. It is also an excellent modality for screening for bile duct, dilatation. Two types of ultrasound are in common use today. One involves the traditional static B-scans which have been available for about the last ten years. Recently real-time imaging has been introduced and it is rapidly supplanting the traditional B-scans in many locales. This type of imag produces a "motion picture" view of the area be scanned and is analagous to fluoroscopy. sonographer can rapidly survey the entire abdomen many planes and observe bowel peristal diaphragmatic motion, fetal motion and so forth. method suffers from having a very narrow field of v and poor reproducibility of freeze-frame images off cathode ray tube monitor.

In addition to having some of the same general use CT (Table 5) ultrasound has a number of applications which it is especially suited. There is a 94% to 9 accuracy in the detection of gallstones and sonogra has replaced oral cholecystography as the prime meth for detecting gallstones.[5] It does not, however, g information as to the functional state of the gallblad or the patency of the cystic duct. These are be evaluated by oral cholecystography and radionucl biliary studies, respectively. It is the initial procedure choice to diagnose and evaluate an abdominal ao aneurysm. Ascitic fluid is readily localized and aspira by ultrasound. Ultrasound is a superb means to scre the kidneys for hydronephrosis in cases of acute re failure and can also be used to screen hydronephrosis in cases of poor function of a transpl kidney. Postoperative hematomas and lymphangiocc after transplant surgery are readily detected. Because the lack of ionizing radiation ultrasound is ideal obstetrical diagnosis. In many instances ultrasound riv or even surpasses CT in routine pelvic and gynecolo work. In a cooperative patient with a full bladder uterus and ovaries are readily visualized. Additiona ultrasound is an excellent modality for follow-up stud

### Table 6
### Frequent Ultrasound Errors

mproper recognition of sonographic artifacts
ncomplete visualization of an organ hidden by overlying
owel gas or bone density
mproper recognition of normal variants
ncorrect diagnosis of cyst versus solid lesion
ncorrect diagnosis of fluid type

### Table 7
### Computed Tomography Versus Ultrasound

| | Ultrasound |
|---|---|
| Expensive | 1. Relatively inexpensive |
| Uses radiation | 2. No radiation |
| Less dependent on operator skill | 3. Very dependent on operator skill |
| Long exam time | 4. Short exam time |
| Requires oral contrast (may also require IV contrast) | 5. Uses no contrast |
| Less limited by body type | 6. Markedly limited by large abdominal wounds and obesity |
| Transverse images only | 7. Can image in any plane or obliquity |
| No dynamic imaging | 8. Can have dynamic real-time imaging |
| Markedly limited by patient motion | 9. Not limited by patient motion |
| Provides more consistent anatomic information in the majority of patients | 10. Not as limited as CT in cachexic patients, infants and young children |

ll types because of its ready availability, relatively low
t and lack of patient risk. A patient may be initially
luated by CT, for example, and then followed by
asound once the disease process has stabilized.
rasound is also the procedure of choice (in thin or
derate-sized patients and those without abdominal
unds) for screening for pancreatic pseudocyst and for
owing the course of a pseudocyst. In obese patients
those with large abdominal wounds CT should be
d.

ltrasound is considerably more operator and patient
endent than CT. Patients who are obese, have much
vel gas or undergone recent barium exams are quite
icult to image properly. Thus, the overall imaging
ability of ultrasound is more limited and subjective
n CT. A number of errors are associated with its
erpretation (Table 6). The most important are those
ciated with incomplete visualization of structures
ause of obesity and bowel gas and the improper
gnosis of cyst versus solid material. It is imperative
t the technologist performing the exam and the
sician interpreting it have meticulous technique and
familiarity with everyday sonographic artifacts.

### Table 8
### Relative Costs (7/1/81)
### Includes Professional Fee Plus Standard Radiographic Charge

| | |
|---|---|
| Chest (PA, lateral, apical lordotic) | $ 41.00 |
| Complete Abdomen | 62.00 |
| UGI | 122.00 |
| BE | 109.00 |
| Body CT (with IV contrast) | 304.00 |
| Abdominal Sonography | 127.00 |
| Liver-Spleen Nuclide Scan | 250.00 |
| Biliary Nuclide Study | 270.00 |

## Summary

CT and ultrasound are quite useful techniques for the diagnosis of abdominal and pelvic disease. They have opened up an entire new vista in imaging the abdomen but their limitations and potential pitfalls should be realized. Their relative merits and problems have to be appreciated (Table 7) in order to understand their place in patient management. They frequently are complimentary studies not only between themselves but in use with ERCP, THC and radionuclide studies. They offer more precise anatomical information than radionuclide studies but do not give the physiological information that is often provided by the nuclear medicine exams. They have the enormous advantage of being able to visualize the entire abdomen and pelvis frequently revealing unexpected significant findings in body systems other than those being initially investigated (Figure 1). Nevertheless, they give less specific localized anatomic information than THC or ERCP. Finally, it should be realized that the cost of these studies is not insignificant (Table 8). Thus, elaborate schema have been proposed for usage of these various modalities to maximize information gained and minimize patient risk and cost.[6] These schema should be considered only as loose guidelines to help the radiologist and referring physician.

By having a reasonable understanding of the uses, limitations and pitfalls of CT and ultrasound, the primary care physician is best able to intelligently refer patients for these exams and maximize the information gained from them.

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# Language Impairment In Dementia

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**Abstract**

Language-speech and cognitive functions were compared in dementia patients with Alzheimer's disease, Huntington's disease, Parkinson's disease and normal elderly controls. Language impairment was found to be present in all stages of dementia and language tasks were found to be more sensitive to the presence of dementia than neuropsychological tests. The chronology of the dissolution of language functions in dementia patients is presented followed by a summary of differences in language-speech functions between patients with focal lesions and patients with the diffuse neuronal degeneration associated with dementia.

Key Words: language, dementia, Alzheimer's disease, Parkinson's disease, Huntington's disease.

While aphasia syndromes due to the focal lesions caused by stroke are well defined, language impairment resulting from diffuse neuronal damage caused by dementia producing illness is relatively undefined. Research of the last decade suggests language impairment is present in all stages of dementia.[1,2] Understanding language impairment associated with dementia is becoming more important because the age group most affected by dementia is 65 years or older, the fastest growing segment of the population. Currently 24.7 million Americans are 65 years of age or older by the year 2000 the 65 plus population is expecte rise 32% to 32 million or one out of every eight pers Presently one out of every 100 persons 65 years or o is severely demented, and ten in every 100 suffer f mild dementia,[3] or between 1.5 and 2 million Americ According to Katzman,[4] in the absence of effec treatment, the prevalence of dementia will double in lifetime of our children and triple in the lifetime of grandchildren.

Understanding the chronology of langu dissolution in neurological disorders associated dementia provides the clinician with a measure disease severity, as well as a baseline measure objectively assessing the efficacy of various therap Further, knowledge of language competencies different stages in dementing illnesses enables clinician to better communicate with the patient, as the patient's ability to function independently, develop in the caretakers realistic expectations of patient. Comparative studies of language change etiologically different dementias may aid the clinicia making differential diagnoses among neurolog disorders associated with dementia and demen illnesses and other neurological disorders. Furtherm because the morphological changes associated Alzheimer's disease, the primary cause of deme accounting for 50% of dementia cases,[5] are seen in brains of the healthy elderly,[6] the study of langu changes in Alzheimer's disease patients may prov insights into the effects of normal aging.

A longitudinal study of the effects of certain deme producing illnesses on language is presently be

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### Table 1
### Test Battery

| | |
|---|---|
| **ropsychological Tests** | |
| k Design | WAIS subtest; visuomotor construction test |
| arities | WAIS subtest; abstract verbal reasoning test |
| sense Syllable ning Test | Learning test |
| tal Status stionnaire | Orientation test |
| ard Digit | WAIS subtest; sensory memory test |
| **uage Tasks** | |
| al Description Test | Creative language task |
| ing | Confrontation naming test |
| ence Disambiguation | Test of ability to recognize and explain linguistic ambiguities |
| ence Correction Task | Test of ability to recognize and correct phonological, syntactic, and semantic errors |
| matics Task | Test of ability to define speaker intentions and recognize contextual effects on utterance interpretations |
| **ody Picture abulary Test** | Receptive vocabulary test |

ducted at the University of Arizona. Language and nitive functions of 30 Alzheimer's disease patients, 15 kinson's patients, 10 Huntington's patients and 37 mal elderly are being assessed every six months for ee years. Unlike Alzheimer's disease and ntington's disease, Parkinson's disease is not a nary degenerative dementia[7] and dementia is not ays present. However, dementia occurs in a nificant proportion of Parkinson patients. Incidence s range from 20%[8] to 77%.[9]

## thods

o be included in the study, subjects had to be native akers of English, have adequate vision for reading, l pass with 80% accuracy a speech discrimination test. mentia patients were selected from patients luated in the Mucio F. Delgado Clinic for uromuscular Disorders at the Arizona Health ences Center and the Tucson Veterans ministration Medical Center. Each underwent a nplete neurological evaluation.

ive psychological and seven language tests constitute test battery which is being used to assess cognitive, mory/learning, and expressive and receptive guage functions (Table 1).

nalysis of variance was used to make intergroup nparisons of test performances among dementia ups, and dementia groups and normals. Sensitivity to mentia of language tasks as compared to uropsychological tests was assessed by means of criminant analysis and the computation of inter-test relations.

## Results

Language impairment was present in all stages of dementia and proportionate to cognitive impairment. Subjects with a diagnosis of Alzheimer's disease were most impaired, both cognitively and linguistically, followed by patients with Parkinson's and Huntington's disease. The performance profile of Parkinson's patients was similar to that of Alzheimer's patients with the only significantly different performance being the poorer performance of Alzheimer's patients on the confrontation naming task. Huntington's patients were better oriented than Alzheimer's patients and performed significantly better on the confrontation naming task, and *Block Design* subtest of the *Wechsler Adult Intelligence Scale*, a visuomotor construction task.

Language tasks were found more sensitive to dementia than psychological tests although strong positive inter-test correlations were obtained using Pearson product moment correlation technique. Particularly sensitive to dementia were the Sentence Disambiguation Task, Verbal Description Task, *Peabody Picture Vocabulary Test*, and that section of the Pragmatic Task that assesses the ability of a subject to recognize a speaker's intent in producing a particular utterance.

## Discussion

Although a complete description of differences in the nature of language dissolution in etiologically different dementia patients must await completion of the study, several generalizations can be made from research to date about the effects of these dementing illnesses on language.

In the early stages of dementia, language impairment, although present, may not be clinically apparent in casual conversation. Affected individuals have become apathetic experiencing a loss of desire to initiate communication. Patients are aware of memory problems and may attempt to conceal their deficiencies. They rely increasingly on well practiced verbal scripts and cliches. Receptive vocabulary is slightly depressed and the referential boundaries of some words have begun to deteriorate. For example, one patient used the word "peach" to refer to "pear" and other fruits. Abstract features of words and weak lexical associations seem to be lost first. Within a semantic category, subordinate lexical items are lost before superordinate; that is, "peach" and "pear" are likely to be lost before the word "fruit".[10] Oral discourse is likely to be vague and empty. Utterances are, however, well formed syntactically and phonologically and semantic paraphasias are more common than phonemic. If asked to recognize and correct errors of syntax and phonology, patients experience no difficulty.

**Case Examples**
**E: Examiner**
**S: Subject**
**Type: Huntington's Disease**
**Severity: Mild**

**Example: Subject was limited in his ability to describe common objects; ideational perseveration.**

**E:** Tell me about this. (button)

**S:** This is a button. It can be used in many ways. It can be sewed on a coat. This button is grayish in color. And, uh, (unintelligible word) say it's grayish in color. It's flat. Uh, I've already said it's gray, I think. That's about all. I can't think of anything else.

**Type: Alzheimer's Disease**

**Severity: Mild**

**Example: Subject is unable even with prompting to describe objects fully.**

**E:** Tell me everything you can about this. (button)

**S:** It's a button, a large button with two little holes in it. (extended pause)

**E:** Tell me more about it.

**S:** Well, it's just two little holes in the button. I'd have to say it fast with two little holes in it.

As dementia progresses apathy increases and the individual's sensitivity to the context of the communicative interaction declines. Responses are increasingly egocentric and there is a growing disregard for the conversational rules that operate between normal speakers. Impairment of recent memory has made remembering the topic and purpose of the conversation difficult. Verbal perseverations are frequent, particularly ideational repetition, the repetition of an idea after another idea has been expressed. Patients are impoverished in their ability to generate sequences of related ideas or to think of items in a category. Receptive and expressive vocabulary deficits are apparent. Linguistic errors are rarely self-corrected even though patients spontaneously correct syntactic and phonologic errors if they are engaged in a sentence repetition task. This phenomenon of spontaneous correction exists even in severely demented individuals, and has lead neurolinguists to conclude that the language subsystems of syntax and phonology are less vulnerable to dementia effects than semantic and pragmatic (knowledge of how to use language).[12,13]

**Case Examples**

**Type: Alzheimer's Disease**

**Example: Perseveration.**

**S:** I don't know much about this button. I don't know much about it anyway.

**S:** Well, well, gee, gee, gee, bee, a, an. Well darling, I don't know. Well, sweetheart, I don't know.

**S:** Cute little hammer, that's cute. I never seen one like that. It's very cute for one thing.

**S:** A nail, a nail, it's a name of it, it is the name of a nail. That's right. That's right.

**Type: Huntington's Disease**

**Severity: Moderate**

**Example: Misnaming; inability to switch sets.**

**E:** What is this? (button)

**S:** Oh, that's a needle. But. . .button hole scissors. And they go ahead they put buttons or they put, ss, that's how they put buttons on your coat with it, I guess.

**E:** What does it mean to describe?

**S:** Well like your a buttoning your blouse would b
example.

**E:** What does it mean to guarantee?

**S:** Guarantee you're gonna get it. I guess we're go
have company or something. That would b
guarantee, wouldn't it?

**Type: Parkinson's Disease**

**Severity: Moderate**

**Example: Misperception; Inability to define.**

**E:** Tell me about this. (marble)

**S:** It's like a candy and it's nearly as light. You can fe
It's light. Some liquid in it. It hasn't been used. That's
way it looks to me, orange color. Or, orange col
candy. Orange colored candy that you put in y
mouth. That's all I can think of.

In advanced dementia when patients are disorier
for time, place, and person, severely impaired in re
and long-term memory, they may produce jarg
meaningless utterances, or be mute. These differer
effects likely reflect the distribution and severity
degenerative changes in the brain but this hypoth
has yet to be tested. When a meaningful utteranc
produced, it is usually a cliche or an account of sc
highly familiar past event. Patients are now unabl
form enduring memories and the day to day event
life are unretrievable once they have fallen f
consciousness.

Syntax is often disturbed although words are
strung together in a totally random fashion
neologisms conform to the rules of English. Pati
often attempt to repeat word sequences they have
understood but for which they have retained a sens
image of the phonologic representation. Th
responses may sound like those of a nor
monolingual speaker who attempts to repeat a sente
spoken in a foreign language.

**Case Examples**

**Type: Alzheimer's Disease**

**Severity: Severe**

**Example: Disturbed syntax and meaning.**

**E:** Tell me about this. (green block)

**S:** Well, this is, uh, well now what is that? Well, I d
know, these things are so worried. These are, they ar
worried, they worried, they worried, they worried.

**E:** Tell me about this. (button)

**S:** Right yes, on a button, very pretty. Well a man, I u
to when I uh, but nobody would hardly that. This has
a two things. Very much. This you mean that hold
back. Well, it is a the first day of a child's doesn't car
very good. And uh, but, as time goes on it becom
very (unintelligible word).

**Type: Senile Dementia: Alzheimer's type**

**Severity: Severe**

**Example: Nonsensical utterances.**

**E:** Tell me when your birthday is.

**S:** Huh.

### Table 2
### Differences and Similarities In Language-Speech Between Focal and Diffuse Lesions

| **guage Impairment** to focal lesions | **Language Impairment** due to diffuse damage (dementia) |
|---|---|
| **Differences** | |
| **den Onset** | **Slow insidious onset** |
| en only one modality fected | Multimodality reduction in language |
| often express non- bally what is difficult xpress verbally | Can't express nonverbally what is difficult to express verbally |
| of ability to ipulate linguistic bols | Loss of ability to think. Impairment of verbal and nonverbal intelligence |
| en self correct | Rarely self correct |
| en express frustration r inability to nmunicate | Do not express frustration over inability to communicate |
| en dysfluent terior aphasia) | Generally verbally fluent |
| ierally oriented | Disoriented |
| ierally memory intact | Marked recent and long term memory deficits |
| ierally aware of nmunicative partner | Gradual disregard for presence of other people and the content of their utterances |
| guage impairment roportinate to ability perform other ntal functions | Language impairment proportionate to deterioration of other mental functions |
| history of cumulative sening of mentation | History of cumulative worsening of mentation |
| bal apraxia | Motor functions spared in Alzheimer's disease; dysarthia common in Parkinson's disease and Huntington's disease |
| **Similarities** | |
| serveration | |
| ning Impairment | |
| k of desire to initiate communicative interchange | |
| on | |
| bal fluency (in posterior aphasics) | |

When's your birthday?
t could have been in August. But there was just
ther one and uh, and then I, I couldn't fight it off, so,
ck.

*omparison of the language of dementia to language pairment resulting from focal lesions.* Marked erences exist in linquistic and other cognitive ctions in patients with focal damage in the language ninant hemisphere and patients with diffuse bilateral ebral damage typical of neurological disorders ociated with dementia (Table 2). With a focal lesion in dominant frontal lobe, the patient may suffer a loss phonologic and syntactic abilities.[14] Focal lesions in temporal lobe preserve verbal fluency but cause language comprehension deficits and semantic and syntactic production problems.[15] Patients with severe temporal lobe lesions may only produce jargon. In Alzheimer's disease degenerative cortical changes occur bilaterally primarily in the hippocampus, frontal and temporal lobes and in the early stage language impairment is imperceptible in casual conversation. Speech functions are routinely spared in Alzheimer's disease. In Parkinson's disease and Huntington's disease structures of the basal ganglia, as well as the cortex, are affected and patients suffer motor problems that may interfere with respiration, phonation, and articulation. In these diseases both language and speech may be affected and motor speech problems may present before signs of language impairment.

Linguistically, patients with focal damage and diffuse damage generally can be differentiated by the degree to which linguistic impairment is proportional to cognitive impairment. Aphasics with focal lesions typically do not suffer generalized cognitive impairment and can express nonlinguistically that which is hard to express linguistically. Additionally, language impairment caused by focal damage tends to improve with time while the language of the dementia patient inexorably deteriorates. Pragmatically, the patients with focal lesions are sensitive to their listeners and the context in which language is spoken but dementia patients become increasingly contextually insensitive and self-directed in their communication.

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# Management of Premalignant Esophagogastric Lesions

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There are many lesions of the esophagus and the stomach that are recognized to have malignant potential (Table 1). This article will highlight the frequency of the development of cancer and will develop an approach to the rational management of these premalignant lesions.

The columnar-lined esophagus is the most common premalignant lesion of the esophagus. The normal esophagus is lined with squamous epithelium. The development of columnar epithelium can be a response to inflammation. Although gastroesophageal reflux is a common condition, only about one-third of patients with reflux have endoscopic findings of esophagitis. In turn, eleven percent of patients with esophagitis in one large series had extensive columnar lining of the esophagus. Overall, only about 3.5 percent of patients with gastroesophageal reflux will develop a columnar-lined esophagus. On the background of this columnar epithelium, adenocarcinoma of the esophagus can subsequently develop (Table 2). Although the time frame for the transition to cancer was not defined, 8.6 percent of the patients with columnar-lined lower esophagus evaluated by Naef had adenocarcinoma.[1]

Achalasia, a primary motility disorder of the esophagus characterized by aperistalsis of the body and a high pressure lower esophageal sphincter that fails to relax completely, is another example of an esophageal lesion associated with a high frequency of cancer. In the Mayo Clinic experience one-half percent of their patients with achalasia followed over a thirteen-year interval developed adenocarcinoma of the esophagus.[2]

In turning to the stomach, atrophic gastritis has been documented to have a high frequency of adenocarcinoma—8.6 percent in a group of patients followed for 19 to 23 years.[3,4] The frequency of atrophic gastritis in an older population is alarmingly high. More than half of a randomly selected population over the age of 50 in a rural Finnish village had atrophic gastritis.[5] If we accept an 8.6 percent frequency of the development of carcinoma in this group over a prolonged follow-up interval, the implications are astounding. The frequency of gastric carcinoma in the elderly would seem to limited only by the age to which they live.

**Table 1**
**Premalignant Esophagogastric Lesions**

| | |
|---|---|
| Esophagus | Columnar epithelium (Barrett's) |
| | Achalasia |
| | Lye stricture |
| Stomach | Atrophic gastritis |
| | Adenomatous polyps |
| | Pernicious anemia |
| | Postgastric surgery |

In contrast to the colon, the majority of polyps in stomach are regenerative (hyperplastic) rather tl adenomatous. Adenomatous polyps have the poten to develop malignancy. This potential is clearly si related, being greater for polyps over two centimeter diameter.[6]

Studies of pernicious anemia have reportec frequency of adenocarcinoma of the stomach rang from 4 to 13 percent. The high figure is from a sei followed for 13 years.[7]

The postoperative stomach poses another probl Gastroenterologists are familiar with the problem "stomatitis," inflammation of the gastric muc adjacent to the anastomosis, and so-called "l gastritis." Less commonly recognized is development of adenocarcinoma of the gastric stur In asymptomatic patients the frequency adenocarcinoma ranges up to 3.7 percent.[8,9] symptomatic patients it appears to be even highe Adenocarcinoma develops in patients who have gastric surgery for benign conditions. T adenocarcinoma occurs after operative procedu including Billroth I and Billroth II anastomoses simple gastroenterostomies.[11] Cancer occurs on gastric side of the anastomosis.

The frequency data demonstrating the associat between upper GI problems and the development cancer has been reviewed. Are there any commonali among these premalignant conditions? Chro inflammation is an aspect of most of these condition chronic stasis, esophagitis, bile reflux, gastritis. A lo period of latency from the onset of the problem to recognition of the development of cancer is typical. T timing of the onset of the condition is most clear in setting of gastric surgery where the latency interval is to fifteen years. Often an additional common featur that the patient is asymptomatic or has nonspec symptoms that do not suggest the development cancer.

There are many problematic aspects to th premalignant esophagogastric conditions. Detectio difficult—the symptoms are similar to those of underlying predisposing condition. The prec histologic precursors of cancer have not been defin

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### Table 2
### Premalignant Lesions and Estimated Frequency of Carcinoma

| ion | Percent Cancer |
|---|---|
| phageal columnar ithelium | 8.6 |
| ıalasia | 0.5 |
| ophic gastritis | 8.6 |
| enomatous polyps | Size dependent |
| nicious anemia | 4-13 |
| tgastric surgery | 0-8.9 |

spective studies defining the risk of dysplasia in the ɔer GI tract have yet to be reported. Convincing ɔrmation is beginning to accumulate in relation to plasia of the colon, specifically in the setting of erative colitis. However, this kind of information es not exist for the upper GI tract, rather there are ated case reports. Additionally, because of differing gnoses it is not clear if early surgical intervention in esophagus and stomach will be as successful as in the on. Population differences must be taken into ount in applying study results. There are well-ognized differences in the frequency of gastric cer in different populations. For example, many of studies cited are from Scandinavia, where there is a her frequency of gastric cancer than there is in the ted States. It is difficult to project from rural Finland the urban United States. However, the report on umnar-lined esophagus and a number of the series in postgastrectomy setting are from the United States Europe.

low do we effectively screen these patients? What is appropriate interval for such screening? Turning cifically to esophageal columnar epithelium, there a number of problems. The time for the velopment of carcinoma in the presence of the umnar-lined esophagus is not defined. The role of ireflex surgery as an intervention in the process of ısformation of columnar epithelium to malignancy is clear. Although there are reports of the reversion of umnar epithelium to squamous epithelium after ireflex surgery, this is not a uniform occurrence.[12] ef's series includes a patient who had antireflux gery and subsequently went on to develop cinoma of the esophagus. If we identify histologic plasia in the setting of a columnar-lined esophagus, at is the next appropriate step? Here we have to ance the risk of esophagectomy versus the risk of the velopment of invasive carcinoma.[13]

low can we manage patients with these premalignant ıditions? In the setting of the lack of adequate ɔrmation, we must still formulate an approach (Table Systematic screening is clearly essential. After an ɔropriate latency interval—ten to fifteen years, for mple, in the postgastric surgery setting—screening should be conducted at regular intervals. It should include endoscopy with systematic biopsy and brush cytology, plus additional biopsy and cytology of any suspicious lesions. The identification of severe dysplasia should lead to a repeat endoscopy and if dysplasia is a consistent finding, then serious consideration needs to be given to surgical therapy.

### Table 3
### Management of Premalignant Lesions

Accurate diagnosis
Systematic endoscopic screening
Regular intervals

To put these premalignant conditions in perspective it is necessary to recognize that they account for only a small percentage of all upper gastrointestinal carcinomas. Prevention of upper GI malignancy will require a better understanding of causal factors and the development of adequate screening procedures. We need better prospective studies in well-defined groups of patients to obtain better risk information for planning the management of these patients.

In conclusion, esophagogastric premalignant conditions have been highlighted. Awareness of the association of these conditions with the development of cancer is key for detection. In the absence of complete information, a program is proposed to screen patients with these conditions for the early detection of cancer.

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# Pneumatic Counterpressure

Arthur B. Sanders, M.D.

The use of pneumatic counterpressure in clinical medicine dates back to 1903 when Crile used an inflatable rubber suit for postural hypotension. He later described a dramatic response to the suit in a patient with hemorrhagic shock.[1] The idea was lost until World War II when the G suit was developed to prevent CNS ischemia from gravity forces during flight. Its use has been a part of aerospace medicine ever since. In the 1950's and 1960's a gradual body of literature was built up on the use of pneumatic counterpressure in a variety of clinical situations, including hemorrhagic shock. Recently, Peligra and Sandberg reviewed 174 case reports where circumferential pneumatic compression was used to control massive intra-abdominal bleeding from diverse causes, such as aortic aneurysms, pelvic fractures, penetrating abdominal trauma, and post-partum hemorrhage. At the same time, animal experiments showed that pneumatic counterpressu was effective in controlling hemorrhage.[1,3] Only in t past decade, however, did the use of pneuma counterpressure become commonplace. The rise emergency medicine as an independent discipline a the development of a prehospital care system focus attention on the need for treating intra-abdomi hemorrhage in the field. Circumferential pneuma counterpressure applied through antishock trousers become a mainstay in the prehospital care treatment trauma patients. Several studies have shown t antishock trousers to be practical, clinically effecti and possess remarkably few side effects in t prehospital treatment of hemorrhagic shock.[4-5]

Circumferential pneumatic counterpressure can applied to humans through several devices which commercially available. The terms in the medi literature referring to essentially the same devices somewhat confusing. It has been referred to as MA suit, G suit, antishock trousers, medical antisho trousers, military antishock trousers, antishock garme

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ishock airpants, external counterpressure device,
eumatic trousers, counterpressure suit, etc. Actually,
ST suit is a trade name which the David Clark
mpany uses to refer to their device. The name is so
ular, however, that it has become common usage for
device. Jobst is the other company which
nufactures antishock airpants. Both are effective in
hospital care.

he primary indication for the counterpressure device
emorrhagic shock, especially if the hemorrhage is in
lower half of the body. It provides two basic
ctions. First, it helps stop the bleeding vessel under
suit.[1,3] Laplace's Law describes the circumferential
sion which keeps a vessel open. This circumferential
sion is equal to the transmural pressure in the vessel
ltiplied by the radius. When a counterpressure
vice is applied the extraluminal pressure rises causing
transmural pressure to decrease and the radius of the
sel decreases. Therefore, the circumferential tension
creases and the tear in the vessel would be more likely
lot off.[1] In addition, Poiseuille's Law relates the blood
w in a vessel to the fourth power of the radius of the
sel. Since the external counterpressure causes the
ius to decrease in size, blood flow will decrease to the
rth power and peripheral resistance will increase to
fourth power. Thus, small changes in the radius can
ount for large changes in the blood flow and
ripheral resistance. The second important effect of
counterpressure device is that it raises the blood
ssure. For years, it had been estimated in the
rature that when the counterpressure devices are
lied, 750 ml to 2000 ml of blood is autotransfersed
o the central circulation. This increase in volume to
heart (preload) increases the cardiac output which
uld account for the observed increase in blood
ssure. Recently Gaffney and his colleagues[7] showed
t in a normal human being there is very little change
cardiac output and stroke volume when the MAST suit
applied. However, the blood pressure increased
nificantly. This could only be explained by the
rease in the calculated peripheral vascular resistance.
us, even in patients in shock, it is inferred that most of
increase in blood pressure seen after the
unterpressure device is applied is due to an increase
peripheral vascular resistance.

There is much concern about the possible
mplications of the use of pneumatic counterpressure.
en concerned with the short term use until more
finite therapy could be instituted, complications are
e. The counterpressure device is contraindicated in
setting of pulmonary edema or cardiogenic shock.
e increased afterload would worsen these conditions.
ere was concern that the counterpressure devices
uld increase intracranial pressure and worsen head
uries. Two recent studies in dogs have shown that
racranial pressure is not significantly increased when
plied in the setting of hypovolemic shock.[8,9] A
crease in respiratory vital capacity has been
served;[10] however, alveolar ventilation is not significantly impaired.[11] Lactic acidosis has been noted in dogs[123] but it involved prolonged use and has not been substantiated in clinical practice.[2] Compartment syndromes have been reported as case reports[13] but the cause and effect relationships are far from clear. When the counterpressure suit is in place, it limits access for the physician to the lower half of the body. Femoral and saphenous intravenous lines cannot be placed. The lower abdomen, pelvis, and lower extremities cannot be examined. Nevertheless, the physician must avoid the temptation to remove the counterpressure suit rapidly. Removal will cause a sudden decrease in peripheral vascular resistance and could put the patient back into shock. Slow decompression of one compartment at a time while monitoring the blood pressure and pulse, and infusing appropriate intravenous fluids should be the only way the device is removed.

In summary, pneumatic counterpressure devices are clinically effective tools with which physicians should become familiar. The primary indication for their use is in the prehospital care of hemorrhagic shock. They increase blood pressure primarily by increasing peripheral vascular resistance. They help slow or stop a hemorrhaging vessel by decreasing circumferential tension. For the short-term use in the acute setting, pulmonary edema or cardiogenic shock are the only contraindications. For long-term use (such as for pelvic fractures or orthostatic hypotension), attention to acid base, respiratory, and renal status is indicated, as well as observing for signs of compartment syndromes. Caution is advised upon removal of a counterpressure suit observing for signs of hypotension.

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# Cervical Carcinoma:
## The Case against Herpesvirus

Barry D. Weiss, M.D.

**Abstract**

The American Cancer Society recently recommended decreasing the frequency of PAP smears except for women at high risk. Previous genital herpes infection is a high risk factor.

The evidence that herpes simplex II causes cervical carcinoma includes epidemiologic studies showing this cancer to be venereally transmitted. The virus has been isolated from cervical tumor cells. Women who have or who will develop cervical cancer have serologic evidence of herpes infection more often than controls. Herpes virus DNA has been found in the genome of cervical cancer cells. Sperm factors may also contribute.

The American Cancer Society recently modified its recommendations for cervical cancer screening. The new regimen includes yearly PAP smears for two consecutive years, beginning with the onset of sexual activity. If both of these studies are normal, screening can then be carried out every three years.[1] These recommendations do not, however, apply to those women who are at high risk for cervical cancer.

High risk factors, developed by the Canadian Department of National Health and Welfare, include previous abnormal cervical cytology, early onset of sexual activity, and multiple sexual partners.[2] The later two factors tend to be interrelated; women who experience first intercourse at an early age will also tend to have a greater number of sexual partners. The medical literature suggests a wide range of definitions for these criteria. Multiple coital partners is variably defined as anywhere from more than two to more than four partners. The onset of sexual activity before fourteen is universally felt to be early; some aut define it as coitus before age eighteen.[3]

Prenatal exposure to diethylstilbestrol (DES) is considered a high risk factor. Although at prese definite association only exists between DES and c cell adenocarcinoma of the cervix and vagina, re data show an increased incidence of dysplastic cha in PAP smears from these women. They may, ov longer time period, prove to be at increased risk squamous carcinoma. Yearly cervical cytology for t women would probably be prudent.[2]

A history of prior genital herpes infection also pla patient at high risk. This paper will review the evide linking herpes simplex type II, the common etio agent of genital herpes, to squamous cell carcinom the cervix.

It has been clearly established that herpesviruses oncogenic. Animal models demonstrates that th DNA viruses can induce malignant neoplasms in sev species. Marek's disease is a lymphoproliferative dise of chickens which is induced by a herpesvi Lymphomas in non-human primates, including babo and marmosets, have been linked to this viral agent.[5- herpesvirus has also been shown to have a role in n lymphoid tumors. Lucke tumor, a renal adenocarcin in frogs, is the best example.[6]

Strong evidence also exists to suggest that her group viruses cause tumors in man. The Epstein- virus, a herpesvirus which causes infecti mononucleosis, has been strongly associated w Burkitt lymphoma and nasopharyngeal carcinoma humans.[5,7]

The herpes simplex type II virus has been isola from *in vitro* cultures of human cervical tumor c

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vever, this does not prove causation because the sibility exists that the virus was present as a secondary ader, without an etiologic role.[8]

he first indication that the genital herpesvirus might associated with cervical cancer came with the ization that this tumor behaves as if it were a ereal disease. It is more frequent in women who erience first coitus at an early age and among those h multiple sexual partners.[3] It is most frequent in stitutes and is absent in children and adult virgins.[9] wever, although this type of evidence suggests ereal transmission, it does not specifically iminate the herpesvirus.

here are also examples of what appears to be direct ead, in which two wives of the same man have both eloped cervical cancer.[10] In fact, if a woman marries a n who, previously or subsequently, was married to other woman who developed cervical cancer, her risk developing the disease is increased at least two- or ee-fold.[9] This effect may be explained by recent earch suggesting that sperm may act as a promoter of cinogensis. Studies in which cervical epithelial cells exposed to herpes simplex II virus in the presence of rm demonstrate a greater induction of atypia and plasia when compared to other *in vitro* systems. nstituents of the sperm head are thought to be ential perturbers of the cell genome in susceptible s (i.e., cells infected with herpesvirus).[12]

More suggestive evidence is derived from studies ich demonstrate that women who have carcinoma of cervix are more likely to have serologic indication of vious herpesvirus infection than are groups of ntrol women. Neutralizing antibody against pesvirus can be found in 80%-98% of women with vical carcinoma, but in only approximately 50% of ntrols.[3,13] However, many of these studies are nfounded by a high rate of cross-reactivity between utralizing antibodies against genital (type II) and o-labial (type I) herpes simplex.

ortunately, a type II specific herpes simplex antigen been isolated. When antibodies against this antigen, own as the AG-4 antigen, are measured, the ationship between herpesvirus and cervical cancer comes more remarkable. Ninety-one percent of men with this cancer are positive for anti-AG-4, ereas only 0%-9% of controls have this antibody.[14] netheless, this data also does not prove that pesvirus is not merely a secondary invader of cervical cinoma cells.

here is, however, serologic and other evidence to gest that this is not the case. When type-specific ibody titers are measured in a group of women who followed until some of them subsequently develop cinoma of the cervix, there is a significantly higher e of positive antibody in those women who ultimately velop cancer. In one study, antibodies were present in % of patients who subsequently developed cervical ncer, but in only 7% of matched control women who not develop carcinoma during the same period of observation (up to ten years).[15] This provides evidence that herpetic infection precedes neoplastic transformation of cervical cells.

Perhaps the most impressive data comes from studies of DNA sequences of neoplastic cells. DNA sequences which correspond exactly to portions of the herpes simplex type II genome have been found in cervical tumor cells.[9,14,16] The implication of this finding is that herpesvirus DNA has become incorporated into the genome of the cervical epithelial cell, causing its neoplastic transformation.

Thus, the evidence is quite clear that cervical carcinoma is a sexually transmitted disease. There is also very strong evidence that herpes simplex type II is an etiologic agent of this disease, although a direct cause and effect probably does not exist. Other factors in addition to herpetic infection seem necessary to induce cancer since not every woman who has had a genital herpes infection will develop cancer.

Carcinoma of the cervix probably has a multifactorial etiology with herpes simplex II playing a central role. The possible contribution of sperm has been discussed. There is also some suggestion from *in vitro* work that estrogen hormones may be involved, but this is not certain.[11] Undoubtably, currently unidentified factors also contribute.

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# Medical and Developmental Outcomes Among Navajo Infants from High-Risk Social Environments

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Infants who are vulnerable to adverse changes in health or developmental status can be usefully divided into three separable, but often overlapping populations at risk. These are: 1) infants with aberrant developmental or medical prognoses related to disorders with *established* risk, e.g., Down syndrome; 2) infants at *biological* risk as determined by increased probability of disease or developmental delay consequent to biological insults; and 3) biologically sound infants for whom *environmental* or psychosocial factors impart an increased probability of unfavorable outcomes.[1] A variety of studies have addressed the medical and developmental concomitants of established and biological risk factors.[1,2] Little work, however, has focused on health outcomes among infants at risk on the basis of purely environmental criteria.[3-6]

This study examined medical and developmental outcomes during the first year of life in a cohort of biologically normal Navajo infants, each of whom met at least one conventional criterion for social or environmental risk. The primary objective of the study was to provide a descriptive survey of selected he outcomes among environmentally at-risk Nav infants. A second objective was to assess the degre which individual risk factors were associated v adverse outcomes, within the cohort of high-risk infa

**Table 1**
**Enrollment Criteria**

**Social-environmental risk criteria:**
At least *one* met in families of enrolled infants
(number of families meeting individual criterion)
- Maternal age < 17 years or > 34 years (13)
- Maternal education < 9th grade (29)
- Less than two prenatal visits (18)
- Number of children > 6 (11)
- Previous sibling death (5)
- Absence of paternal support (11)

**Established or biological risk criteria:**
*None* met in enrolled infants
- Medical diagnosis known to promote developmenta biological risk
- Prematurity (estimated gestational age < 38 weeks)
- Postmaturity (estimated gestational age age > 42 week
- Apgar score < 5 at one minute or < 8 at five minutes
- Medical problem requiring hospital admission > 3 day the newborn period

**Table 2**
**Distribution of Outcome Variables**

| | Mean | Standard Deviation | Ra |
|---|---|---|---|
| Number of well child visits | 2.2 (42) | 1.8 | 0- |
| Number of illness visits | 5.2 (43) | 4.2 | 0-2 |
| Number of hospital admissions | 0.6 (43) | 1.2 | 0- |
| Hematocrit (%) | 39 (29) | 3 | 32- |
| Weight percentile | 45 (38) | 29 | 1- |
| Bayley developmental score* | 102 (29) | 9 | 86- |

**Average of psychomotor and mental subscale scores*

## Methods

All Navajo infants born at the Indian Health Ser Hospital in Crownpoint, New Mexico from May 197 May 1979 were screened for enrollment in a one-y follow-up study. Forty-seven newborns were selec on the basis of their meeting: a) at least one of the soc environmental risk criteria, and b) *none* of the biolog risk criteria shown in Table 1. Social risk criteria w modelled after previously used indicators environmental risk,[7] with modifications for use i Navajo population. Forty-three of the 47 families agr to participate.

Each of the study infants received both illness and v child care at the Crownpoint IHS Hospital during first year of life. At the end of the first year, a deta review of the medical record was completed in orde assess outcomes reflecting use of health services, illr

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Table 3
Mean Outcome Variable Scores in the Presence Versus (Absence) of Individual Risk Factors

| | Risk Criteria | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Maternal Age | | Maternal Education | | Prenatal Care | | Number of Children | | Sibling Death | | Paternal Support | |
| child visits | 2.2 | ( 2.2) | 2.3 | ( 1.9) | 1.8 | ( 2.5) | 1.6 | ( 2.4) | 1.2 | ( 2.3) | 2.3 | ( 2.2) |
| ss visits | 4.4 | ( 5.6) | 5.1 | ( 5.4) | 3.5 | ( 6.4)* | 4.6 | ( 5.4) | 6.8 | ( 5.0) | 6.3 | ( 4.8) |
| issions | 0.4 | ( 0.7) | 0.6 | ( 0.5) | 0.2 | ( 0.8) | 0.8 | ( 0.5) | 1.0 | ( 0.5) | 0.5 | ( 0.6) |
| atocrit | 41 | ( 38 ) | 39 | ( 40 ) | 40 | ( 39 ) | 39 | ( 39 ) | 38 | ( 39 ) | 39 | ( 39 ) |
| ght percentile | 48 | ( 44 ) | 48 | ( 38 ) | 50 | ( 41 ) | 51 | ( 43 ) | 38 | ( 46 ) | 41 | ( 46 ) |
| ey score | 101 | (103 ) | 101 | (105 ) | 102 | (102 ) | 103 | (102 ) | 104 | (102 ) | 103 | (102 ) |

*05 by t-test for difference between means*

erience, and health status. Outcome variables uded the number of well child visits, illness visits, and pital admissions, the hematocrit, and the weight centile. Medical records at the two IHS hospitals acent to the Crownpoint service unit were also veyed in order to ascertain other contacts with rnative sources of care.

n addition, the Bayley Scales of Infant Development e administered to 29 of the 43 infants at age 11 to 13 nths by a developmental nurse-specialist. The iodemographic characteristics of the 29 families ose infants received a developmental evaluation did differ significantly from those of the remaining 14 ilies whose infants were not tested.

## ults

wo of the 43 infants died during their first year, one in notor vehicle accident and another as a result of rhea and dehydration. For two other infants, dence of abandonment or neglect resulted in porary placement in foster care.

n contrast, a majority of the study infants had good comes during the first year of life. Table 2 shows the come variables assessed, with their distributions in study population. The mean number of illness visits more than twice the mean for well child visits, and -third of the infants were admitted to a hospital at ne time during the first year of life. Not unexpectedly, se findings suggest greater utilization of health care vices during periods of acute illness, with only sparse tact for the provision of well child care. Despite this tive paucity of "health maintenance" activities, no nts were profoundly anemic, only two (5%) were less n the fifth percentile on weight, and none were elopmentally delayed.

utcomes were further examined by assessing the ree to which individual risk criteria were associated n significant differences in mean outcome scores. For h combination of risk factor and outcome variable, mean outcome score for the sub-population having risk factor was compared to the score for the sub-pulation *not* having the risk factor. As shown in Table only one of the 36 potential comparisons nonstrated a significant difference at the .05 level. ce one of 20 such comparisons would be expected to achieve statistical significance on the basis of chance alone, it appears unlikely that any important differences in outcome were associated with the presence of an individual risk factor.

## Discussion

These findings suggest that Navajo infants considered environmentally high risk on the basis of conventional criteria have medical and developmental outcomes which are almost universally good. At one year of age, only four of 43 infants had sustained severely adverse outcomes. The remaining 39 infants appeared healthy and normal in all respects.

Further examination of outcomes broken down according to the presence or absence of individual risk factors revealed no consistent associations. This result indicates that, within the "high-risk" cohort, none of the conventional risk factors were an important predictor of health outcomes.

Taken together, these conclusions suggest that conventional criteria for social or environmental risk may be less applicable in special populations or in cross-cultural settings. Further work should be directed toward the identification of environmental risk criteria which are specific to the social context and cultural identity of the Navajo people.

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# Ventricular Septal Rupture in Acute Myocardial Infarction

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## Introduction

Ventricular septal rupture is an uncommon, but dramatic and serious complication of myocardial infarction. Although clinical findings usually suggest the diagnosis, special studies are needed to confirm the occurrence of septal rupture. Furthermore, a number of other complications of myocardial infarction may mimic some of the clinical and hemodynamic findings. The diagnosis may be particularly difficult if other complications are simultaneously present. Any complication resulting in hemodynamic compromise in acute myocardial infarction must be rapidly and accurately diagnosed and appropriately treated. In this case presentation, the differential diagnosis of hemodynamic compromise in acute myocardial infarction is discussed.

## Case Report

A 64-year-old white female was brought to University Hospital after an episode of severe chest pain.

The patient had no known cardiac disease and was in generally good health. She had been told intermittently in the past of hypertension but was not under therapy. She had been asymptomatic with normal daily acti until one week prior to admission when she note chest and left shoulder discomfort brought on exertion and relieved by rest. The pain increase frequency and severity during the two days prio admission. On the morning of admission, she had episode which lasted for over an hour, was more sev than previous episodes, and prompted her to com the University Hospital Emergency Room.

There was no history of any significant med illnesses; no history of prior surgery. She was taking medications at the time of evaluation. Risk factors coronary artery disease included the history hypertension, and a 26-pack year cigarette smok history. There was no family history of coronary dise no history of diabetes, and her lipid status was unkno

Upon arrival in the Emergency Room, her bl pressure was 84 mmHg systolic, heart rate 40 per min Respirations were 14 per minute. She was afebrile. was complaining of moderately severe chest pain. neck exam revealed no jugular venous distention; carotids were normal in contour and without br Lungs were clear to auscultation. Cardiac exam revea a left ventricular apical impulse in the fourth intercostal space at the mid-clavicular line. There w

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palpable lifts or ectopic impulses. The first and ɔnd heart sounds were normal. A fourth heart sound present. There was no murmur and no S3. ominal exam was negative. Peripheral pulses were metric and fully intact. There was no peripheral ma.

ectrocardiogram on admission showed sinus dycardia with varying Wenckebach AV nodal block; egment elevation in leads II, III, AVF, and V5 and V6; egment depression in leads I, AVR, AVL, V1 and V2. A st rentgenogram showed a normal sized cardiac ouette and no evidence of congestive heart failure.

pon arrival in the Emergency Room, the patient was ted with lidocaine 50 mg bolus plus a continuous . She was given atropine for her bradycardia and otension without response. She was subsequently n isoproterenol which increased the heart rate to 80 minute and the blood pressure to 125/75. She was n morphine sulfate, a total of 12 mg, until complete ef of chest pain. Forty minutes after arrival, she had episode of ventricular tachycardia with loss of sciousness. She was immediately cardioverted to s rhythm.

ne was transferred to the Cornoary Care Unit and aged with an increase in the rate of her lidocaine with full heparization. During the next 36 hours, her rse was complicated only by the appearance of ertension which was easily contolled with tinuous intravenous nitroprusside. She was erwise without complications.

itial laboratory data were completely within normal ts with the exception of cardiac enzymes. On ission, her total creatine phosphokinase (CPK) was J/L (N=20-100); seven hours after admission the CPK 399; and 15 hours after admission the CPK was 1,609.

nirty-six hours after admission, the patient's blood sure dropped precipitously from 150 systolic to 80 olic. A new harsh high frequency systolic murmur noted along the left sternal border and apex.

**erential Diagnosis**

lultiple factors may cause hypotension in acute ɔcardial infarction. Some of the more important ors to consider are shown in Table 1. Hypovolemia is mportant factor to consider early, as this is easily ectable and its oversight may lead to inappropriate apy. Bradycardias or tachycardias should be evident monitored patient. The diagnosis of hypotension to cardiogenic shock usually presents little culty, although the cause of the pump failure must igorously sought in order to deliver optimal therapy. nt ventricular infarction may present with otension, or with a hemodynamic picture that may ulate pericardial tamponade or constriction.[1] The ntification of this entity is extremely important, as it is use of hypotension and poor output in myocardial rction with a generally good prognosis if appropriate tment is rendered. Acute mitral insufficiency and tricular septal rupture are associated with new murmurs, as in this case. The differential diagnosis of these conditions will be discussed further. Ventricular free wall rupture is a catastrophic event, associated with electromechanical dissociation, and usually a fatal outcome unless surgical treatment is immediately available. Pericardial tamponade may occur in myocardial infarction; its recognition and appropriate treatment may be life-saving. Pulmonary emboli may occur in any patient at bed rest, especially if not anti-coagulated. Large pulmonary emboli or multiple pulmonary emboli may result in a low output syndrome associated with hypotension.

**Table 1**
**Common Causes of Hypotension in Acute Myocardial Infarction**

Hypovolemia
Bradycardia
Tachycardia
Cardiogenic shock
Right ventricular infarction
Acute mitral insufficiency
Ventricular septal rupture
Ventricular free wall rupture
Pericardial tamponade
Pulmonary emboli

**Table 2**
**New Systolic Murmur in Acute Myocardial Infarction**

- Mitral insufficiency
  - LV failure, dilation
  - Papillary muscle dysfunction or rupture
- Ventricular septal rupture
- Tricuspid insufficiency

In this patient, acute hypotension was associated with the onset of a new systolic murmur. Table 2 lists some causes of a new systolic murmur in acute myocardial infarction. Mitral insufficiency may occur as a result of left ventricular failure and dilatation with dysfuntion of the mitral valve apparatus. Papillary muscle dysfunction may occur as a result of ischemia. Rupture of a papillary muscle or chordae tendineae may occur producing gross mitral regurgitation. Classically, the murmur of papillary muscle rupture is described as located in the apex and radiating to the axilla, usually without a thrill, in the setting of inferior infarction. However, these findings are not sufficiently reliable to be used as the basis of a diagnosis. Ventricular septal rupture is an uncommon occurrence in acute myocardial infarction. The systolic murmur is classically described as along the left sternal border, associated with a thrill, in the setting of an anterior myocardial infarction. Again, the physical findings are not sufficiently accurate to be diagnostic.[2] Both mitral insufficiency and ventricular septal rupture

### Table 3
### Guidelines for Swan Ganz Catheterizaton in Acute Myocardial Infarction

Hypotension unresponsive to simple measures
Recurrent or refractory chest pain
Moderate or severe LV failure
Refractory or unexplained tachycardia
Unexplained hypoxia, tachypnea, acidosis, diaphoresis
Signs of mitral insufficiency, VSD, pericardial effusion

### Table 4
### Differential Diagnosis of Diastolic Equalization of Cardiac Pressures

Pericardial tamponade
Constrictive pericarditis
LV infarction with RV infarction
Ventricular septal defect
Left and right ventricular failure

must be considered when a new murmur appears in the setting of an acute myocardial infarction. The murmur of tricuspid insufficiency must also be included in the differential diagnosis.

In order to accurately diagnose the cause of the hypotension and murmur in this patient, and to more closely monitor the effect of therapy, Swan Ganz catheterization was performed. Table 3 lists the major indications for placement of a Swan Ganz catheter in a patient with an acute myocardial infarction. Generally, hemodynamic monitoring is indicated for diagnosis of complications that do not respond to simple maneuvers; and for the close monitoring of acute infarct patients with any serious complication.

Figures 1 through 3 show the tracings obtained from the Swan Ganz catheter as it was advanced from the right atrium to the right ventricle to the pulmonary artery and then to the pulmonary artery wedge position. The mean right atrial pressure was 20 mm Hg; right ventricular pressure was 40/20 mm Hg; the pulmonary artery was 40/20 mm Hg; and the mean pulmonary capillary wedge pressure was 20 mm Hg. All of these pressures are abnormally elevated. Of importance is the fact that in diastole, all of these pressures are equal. The causes of diastolic equalization of cardiac pressures are listed in Table 4. Pericardial tamponade and constrictive pericarditis produce equalization because of the pressure exerted by the surrounding fluid or the pericardium during diastole. In diastole, the myocardium relaxes and generates no active contractile force. If the pressure exerted by the pericardium or pericardial fluid exceeds the usual end diastolic pressure in the ventricles, then the pressure in all chambers of the heart will be equal to that exerted by the surrounding fluid or pericardium. Diastolic equalization may also occur when both left and right ventricles are compromised so that the end diastolic pressures in both

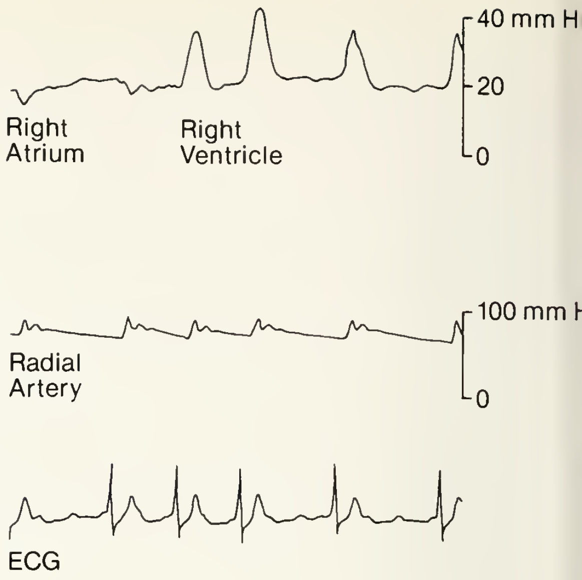

**Figure 1**
**The right atrial and right ventricular pressure trac recorded sequentially, with a simultaneous arterial trace ECG. The dominant wave in the right atrial trace is t descent.**

### Table 5
### Features of Pericardial Tamponade, Right Ventricula Infarction, and Ventricular Septal Rupture

| | Tamponade | RV Infarction | Septal Rupture |
|---|---|---|---|
| Pulsus paradoxus | + | — | — |
| Jugular veins | distended, slow y descent | distended, rapid y descent | distended, rapid y descent |
| Auscultation | faint S1, S2, rub | right sided S3, S4 | left sternal border murmur |
| ECG | electrical alternans | inferior infarct | anterior infarct |
| Echo | effusion<br>insp inc RV EDD<br>insp dec LV EDD | inc RV EDD<br>dec RV wall motion | inc RV ED<br>paradoxica septal mot |

RV = right ventricle; insp = inspiratory
inc = increase; dec = decrease; LV = left ventricle
EDD = end diastolic diameter

chambers are equal. Since the pressures in the a reflect the end diastolic pressures in the ventricle, in situation all cardiac chambers will have equal pressu in diastole. Left and right ventricles may both fail w right ventricular infarction accompanies left ventric infarctions; or if the right ventricle fails for any ot reason, for example, pulmonary emboli, in the settin

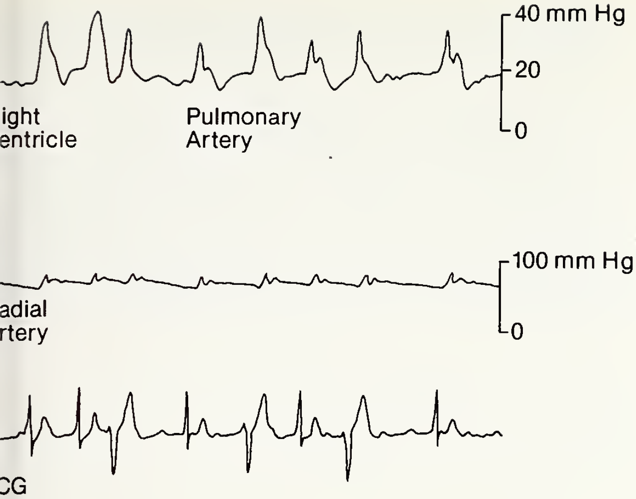

**Figure 2**

**right ventricular and pulmonary artery pressure tracings, orded sequentially, with a simultaneous arterial trace and G. The right ventricular and pulmonary artery diastolic ssures are elevated.**

te left ventricular infarction. Diastolic equalization ially does not occur from ventricular septal rupture ne, although the rupture may cause the failure of h ventricles and diastolic equalization may be sent.[2,3]

n this patient, the diastolic equalization suggested ee major possibilities: pericardial tamponade, right tricular infarction, and ventricular septal rupture. ne of the clinical features which differentiate these nditions are shown in Table 5. Paradoxical pulse is sent in pericardial tamponade but usually not in the er two conditions. The neck veins are distended in all ee conditions, however, the wave form of the jugular ious pulsation shows marked differences. This is ther explained below. Cardiac auscultation quently reveals a rub when pericardial disease is sent, and the heart sounds are faint when a nificant pericardial effusion is present. Right tricular infarction is usually accompanied by right ed gallop sounds. Ventricular septal rupture is ociated with a loud lower left sternal border systolic rmur. The electrocardiogram may be virtually gnostic of tamponade if electrical alternans is sent. This finding is produced by the heart swinging hin a pericardial sac containing a large volume of d. Signs of myocardial infarction may be present in all ee conditions. The echocardiogram may also be gnostic and this is discussed below.

he wave form of the intracardiac pressure traces is remely important in differentiating the conditions t produce abnormal intra-cardiac pressures. In diac tamponade, the major hemodynamic iormality is a restriction of filling of the ventricles. s is reflected in the elevation of the ventricular stolic pressure. Most important however, is the wave m of the right atrial pressure trace. Normally, a

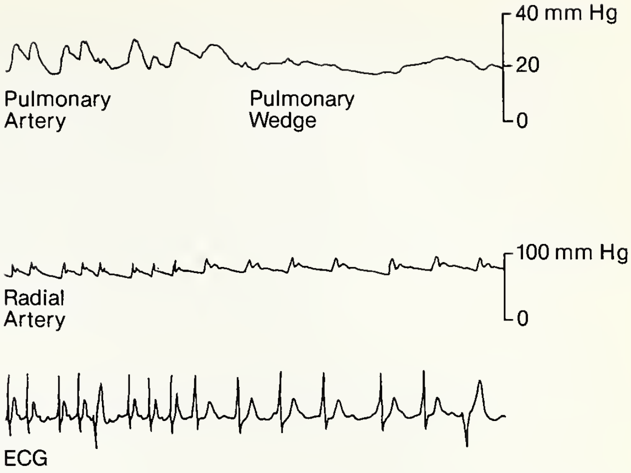

**Figure 3**

**Sequential recording of the pulmonary artery and pulmonary capillary wedge pressures. Both pressures are abnormally elevated.**

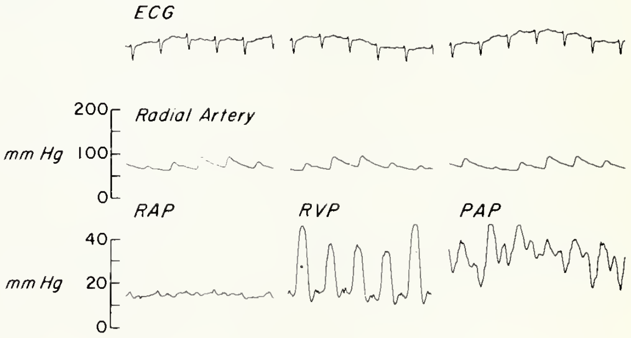

**Figure 4**

**Right atrial (RAP), right ventricular (RVP) and pulmonary artery (PAP) pressure tracings in a patient with cardiac tamponade. The right atrial pressure is elevated, the wave form is flat, and the y descent is obliterated. (Reprinted, with permission, from** *Am J Cardiol* **43:467, 1979).**

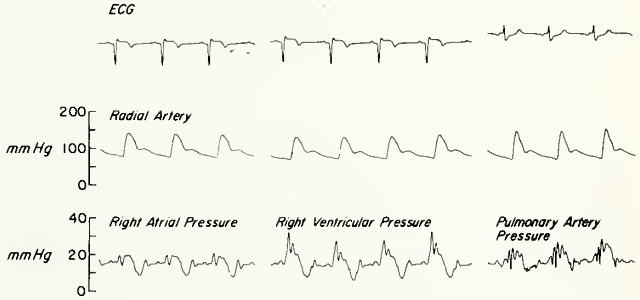

**Figure 5**

**Right atrial, right ventricular and pulmonary artery pressure traces from a patient with right ventricular infarction. The right atrial trace demonstrates a prominent y descent. The right ventricular trace demonstrates a diastolic dip and plateau configuration, similar to that seen in pericardial constriction. (Reprinted, with permission, from** *Am J Cardiol* **43:467, 1979).**

prominent y descent is noted in the atrial trace during diastole. This occurs when the tricuspid valve opens and the pressure in the right atrium abruptly falls. This is normally the dominant wave form in a right atrial trace. In pericardial tamponade, the y descent is virtually completely obliterated. Such a wave form is seen in Figure 4. This may be contrasted to the right atrial wave form in the patient presented here, shown at the top left corner of Figure 1. A prominent y descent is present, virtually excluding the diagnosis of pericardial tamponade. The characteristic tracings of right ventricular infarction are shown in Figure 5.[1] A prominent y descent is present in the right atrial trace. The right ventricular tracing shows an early diastolic dip followed by a plateau. This ventricular contour is seen in both right ventricular infarction and in pericardial constriction. In the case presented here, the right ventricular pressure trace, shown in Figure 1, did not demonstrate a dip and plateau configuration. The pressure tracings in this case therefore seem to exclude tamponade as a diagnosis, and while not excluding right ventricular infarction, did not strongly suggest this diagnosis as the cause of diastolic equalization.

An M-mode echocardiogram was obtained at this time to further define the nature of the underlying abnormalities. The M-mode echo can be quite helpful in differentiating tamponade, right ventricular infarction, and ventricular septal defect. The echocardiographic features of cardiac tamponade are shown in Figure 6. The echocardiogram demonstrates the anatomic equivalent of paradoxical pulse. In inspiration, the right ventricular diameter increases and left ventricular diameter decreases; the reverse occurs during expiration.[4] In the presence of a pericardial effusion, this finding is strongly suggestive of tamponade. The echo features of right ventricular infarction are shown in Figure 7. The hallmarks of this diagnosis are right ventricular enlargement and abnormal or paradoxical motion of the interventricular septum.[5] In the case presented here, the echocardiogram showed a right ventricle within normal limits of size and with nearly normal contractility. Septal motion was normal. No pericardial effusion was demonstrated.

At this point, pericardial tamponade had been virtually excluded as a diagnostic possibility; right ventricular infarction was felt to be an unlikely explanation for all of the clinical, hemodynamic, and non-invasive findings; and severe acute mitral regurgitation was virtually excluded by the absence of large v waves in the pulmonary artery wedge tracing (Figure 3). Therefore, the most likely explanation for this patient's constellation of findings was ventricular septal rupture. However, this diagnosis had not been definitely established by any of the preceeding tests. The diagnosis of ventricular septal rupture can be definitively established by use of the Swan Ganz catheter. A step-up in the saturation of oxygen in the blood at the level of the ventricle can be demonstrated by taking multiple samples from the Swan Ganz catheter. This was do and the results are shown in Table 6. There is a drama increase in oxygen saturation from the right atrium the right ventricle. This indicates the addition oxygenated blood to the right ventricle. In this clini setting, this finding is virtually diagnostic of a ventricu septal rupture. The size of the shunt may be quantitat by using the Fick principle (Table 7). Flow in t pulmonary circuit (Qp) is equal to oxygen consumpti divided by the difference in oxygen content betwe the pulmonary veins and the pulmonary arteri Systemic blood flow (Qs) is equal to oxyg consumption divided by the difference in oxyg content between the systemic arteries and mix venous blood. In order to calculate the ratio of pulmor to systemic blood flow, that is, the size of the shu calculation of $O_2$ consumption is not necessary. T Qp:Qs ratio may be calculated from the oxygen conte of multiple blood samples as shown in the equation Table 7. In this case, the shunt calculated to approximately 2:1.

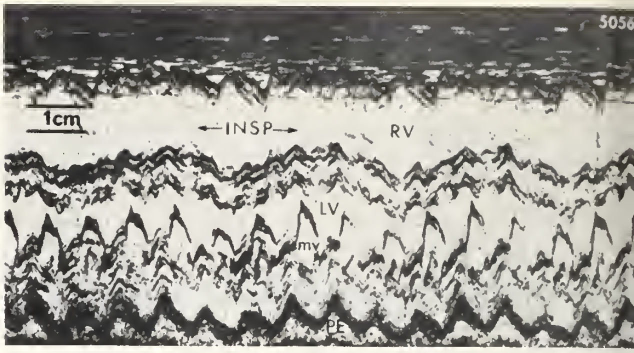

Figure 6
**M-mode echocardiogram from a patient with pericarc tamponade. Pericardial effusion is well seen posteriorly. T right ventricular (RV) diameter increases during inspirati (INSP). (Reprinted, with permission, from Feigenbaum *Echocardiography*, Lea and Febiger, Philadelphia, 1981, p 4**

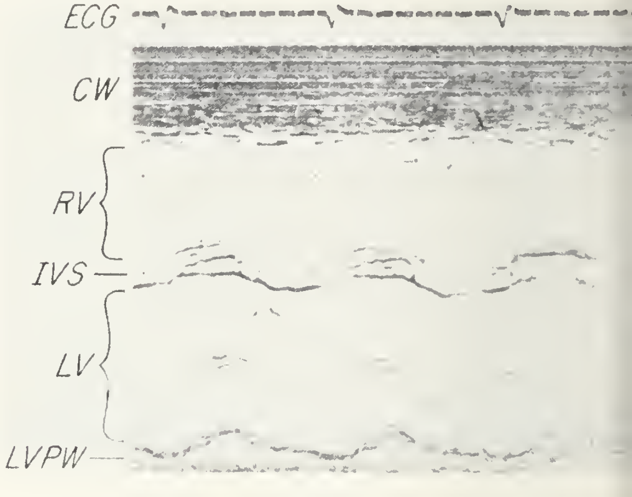

Figure 7
**M-mode echocardiogram from a patient with right ventricu infarction. The right ventricle is abnormally enlarged. T interventricular septum moves paradoxically. (Reprinted, w permission, from *Am J Cardiol* 43:468, 1979).**

**Table 6**
**Blood Oxygen Saturations**

| | $pO_2$ (mmHg) | $O_2$ Saturation (%) |
|---|---|---|
| mic artery | 111 | 97 |
| atrium | 33 | 43 |
| ventricle | 54 | 79 |
| onary artery | 50 | 73 |

**Table 7**
**Calculation of Intracardiac Shunt**

$$= \frac{O_2 \text{ Consumption}}{\text{pulmonary venous } O_2 \text{ content} - \text{pulmonary artery } O_2 \text{ content}}$$

$$= \frac{O_2 \text{ Consumption}}{\text{systemic artery } O_2 \text{ content} - \text{mixed venous } O_2 \text{ content}}$$

$$= \frac{\text{systemic artery } O_2 \text{ content} - \text{mixed venous } O_2 \text{ content}}{\text{pulmonary venous } O_2 \text{ content} - \text{pulmonary artery } O_2 \text{ content}}$$

## urrence, Clinical Course, and Treatment of ricular Septal Rupture

ntricular septal rupture is an uncommon rrence in acute myocardial infarction. The overall lence is between one percent and three percent.[3] al rupture occurs with equal frequency in roseptal and inferior infarctions.[3,6-8] In some ies, hypertension before or after myocardial ction has been proposed as an important ogenetic factor.[9] However, other studies fail to tantiate this association.[3,10]

ntricular septal rupture presents as the acute onset ft ventricular failure or shock, although signs of right ricular failure may also be prominent.[2,3,9,11] Most monly, rupture occurs on the second or third day infarction.[6,7] Typically it is associated with a loud systolic murmur at the left sternal border. However, location of the murmur is not helpful in nguishing septal rupture from papillary muscle ure.[2] A thrill accompanies the murmur in over one- of patients.[3,7] Atrioventricular block occurs uently, and in one series was seen in approximately -third of cases.[6]

apid hemodynamic deterioration is the lominant course, occurring in 60% of cases in one s.[3] Most survivors of the acute phase utlimately ire surgery. Rarely, a patient stabilizes and improves medical therapy, and survives without operative ir.[12]

edical treatment consists of the use of vasodilators to improve forward flow by reduction of impedance. Afterload reduction with vasodilator drugs may also decrease pulmonary vascular resistance and thereby improve right ventricular ejection. The effect of medical therapy on the size of the shunt depends on the relative changes produced in pulmonary and systemic vascular resistances. If vasodilator therapy is associated with a drop in blood pressure and poor tissue perfusion, then intra-aortic balloon counterpulsation is appropriate. This treatment modality will improve forward flow while maintaining diastolic pressure.

Surgery is the mainstay of treatment. The timing of operative repair of the septal rupture depends on the clinical status of the patient and the response to medical therapy.[11] Stable patients with adequate systemic pressures and no or minimal left heart failure should have operative repair delayed for six weeks. However, deterioration at any time is an indication to proceed rapidly to cardiac catheterization and early operative repair.

Patients with adequate systemic pressures, but elevated pulmonary capillary wedge pressures should be treated with vasodilators. If stable, operation should be delayed for three to six weeks.

The patient with hypotension and left ventricular failure will probably require intra-aortic balloon pump assistance. These patients should undergo cardiac catheterization and operative repair as soon as possible. Early operative closure of the septal rupture has been associated with encouraging survival, even in patients with cardiogenic shock.[7,8]

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# The First Decade:

## A Survey of Graduates of the University of Arizona College of Medicin

Marilyn Heins, M.D.
Lisa Leiden, Ph.D.

The College of Medicine admitted its first students in 1967, following a sixteen-year campaign for the creation of an Arizona medical school by local physicians, educators and politicians. The needs for such a college clearly were present. Arizona, the fastest growing state in the country, was completely dependent on physicians trained out-of-state for its medical manpower. Arizona officials, already experiencing shortages in certain speciality areas and facing the prediction of a national physician shortage during the 1960's, began to study the financial, political and logistical possibilities of establishing a school of medicine in Arizona.

Ground was broken for the Basic Sciences Building in May 1966. It was completed in September 1967 and occupied that same month by the first medical students. Because of the need for physicians to practice in Arizona, as well as the limited number of Arizonans admitted to other medical schools, admittants to the University of Arizona College of Medicine were limited to Arizona residents and WICHE students. Enrollment for the first class stood at 32, increasing two years later to 64 students. Since 1973, however, the number of admittants has remained at 88, an increase in class size prompted by federal incentives (capitation) and justified by the growth of the College of Medicine's faculty and facilities.

During its first years the College maintained a four-year curriculum which comprised the traditional two years of basic science and two years of clinical science. The year 1972 marked the beginning of a "major curricular innovation,[1]" the three-year curriculum. Basic science courses were taught during the first 18 months, and clinical training in the final 18 months. return to a four-year curriculum was made in 1978 f number of reasons perhaps the most important b the stresses caused by the pace of learning."

The first class of medical students graduated in 197 decade later it seemed fitting to study the produc the College's first ten classes. Many medical sch record graduates' first postgraduate year spec choices and residency training sites—information typically is collected prior to graduation. Few sch follow their graduates through postgraduate trainin order to gather actual practice data. Although indivi classes at the College of Medicine had previously b surveyed during their first postgraduate year, this is only study which reviews ten classes. The purpose of present survey was to obtain information concernin addition to demographic data, residency train selected specialty areas, present employment/prac status, and satisfaction with chosen medical fields workloads.

In the spring of 1981 questionnaires were mailed t 631 physicians who graduated 1971 to 1979. Include this sample were the two classes graduating in 1 1975A (original four-year curriculum) and 1975B ( class graduating under the three-year curricul Seventy-four percent (464) of those graduates to wh questionnaires were mailed, responded to the pres survey.

### Demographic Characteristics

On the average, men have outnumbered women f to one in the classes sampled in this survey. The rati men to women however, has decreased since the class graduated in 1971; a class in which ten percent w women. Since 1976, approximately 25% of the gradu

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From: University of Arizona Health Sciences Center, Office of Continuing Medical Education and Outreach, Tucson, Arizona 85724.

### Table 1
### Spouse's Education and Occupation

| | Education | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | % Completed College | | | % M.A. | | | % Ph.D./J.D/M.D. | | |
| pation | Female Spouses* | Male Spouses** | Overall | Female Spouses | Male Spouses | Overall | Female Spouses | Male Spouses | Overall |
| Physicians | 0+ | 0 | 0 | 0 | 0 | 0 | 45 | 61 | 54 |
| Lawyers | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 13 | 14 |
| Other professions | 2 | 22 | 3 | 16 | 43 | 20 | 15 | 4 | 9 |
| Nurses/Medical Technicians | 37 | 0 | 35 | 8 | 0 | 7 | 10 | 9 | 9 |
| Semi-professional/ Technological | 1 | 33 | 3 | 2 | 43 | 9 | 0 | 0 | 0 |
| Teachers | 7 | 11 | 7 | 29 | 0 | 24 | 0 | 4 | 2 |
| Clerical Workers | 4 | 22 | 5 | 0 | 0 | 0 | 0 | 4 | 2 |
| Managerial/ Administrative | 1 | 0 | 1 | 2 | 14 | 4 | 0 | 0 | 0 |
| Craftsmen | 6 | 11 | 6 | 0 | 0 | 0 | 0 | 0 | |
| Housewives | 40 | 0 | 38 | 40 | 0 | 33 | 10 | 0 | 5 |
| Students | 2 | 0 | 2 | 2 | 0 | 2 | 5 | 4 | 5 |

Number of female spouses = 260
Number of male spouses = 47
Percentages based on the number of spouses in each of the three education categories represented

e been women. Male physicians (76%) are more y to be married than are female physicians (54%), ough the divorce/separation rate is virtually the e for men as for women. Information collected on uses' education and occupation revealed that, in eral, spouses of both male and female physicians are educated. Fifty percent of all spouses completed ege, 15% received a Master's level degree, and an itional 14% received either an M.D., Ph.D., or J.D., ree. Male spouses tended to be better educated as completed college or received an advanced degree. the male spouses who completed an advanced luate degree, 61% are physicians (Table 1). Most ale spouses (55%) completed college; the majority cally elected either to remain at home or to work in sing/medical technology. Forty-five percent of the ale spouses who received an advanced degree are sicians.

ver half of all graduates (54%) stated that they had dren. Twice as many men (60%) reported having dren as did women (31%). The average number of dren per family, for men and women, is two. The rage age of the youngest child is three years and of oldest child, eight years.

orty-two percent of the graduates reside in Arizona; of these live in Tucson. Another eighteen percent de in California, with the remaining forty percent ributed around the country with no outstanding centration in any one geographic area. It is not orising that Arizona and California represent the two es with the greatest number of University of Arizona duates, as 40% of the graduates completed their residency training in California and 36% in Arizona. Upon completion of residencies, many physicians chose to remain in the same area to begin their practices.

### Table 2
### Percentages of Specialty Choices for the Graduating Classes 1971-1979

| | Male | Female | Total |
|---|---|---|---|
| Internal Medicine | 25 | 17 | 24 |
| Family Practice | 17 | 24 | 19 |
| Pediatrics | 10 (52) | 15 (56) | 11 (54) |
| | | | Total primary care |
| Obstetrics/Gynecology | 9 | 9 | 9 |
| Radiology | 4 | 4 | 3 |
| Anesthesiology | 3 | 4 | 3 |
| Pathology | 4 | 9 | 5 |
| Psychiatry | 3 | 5 | 3 |
| Surgery | 15 | 5 | 13 |
| Other | 10 | 8 | 9 |

**Residency Training**

Summary statistics (Table 2) for all ten graduating classes combined show that the specialty areas selected most often by graduates are internal medicine, family practice, surgery and pediatrics, in order of popularity. Similar numbers of male (52%) and female (56%) graduates chose primary care (internal medicine, family practice, pediatrics). Gender differences associated with specialty choice indicate that women have chosen pediatrics, family practice and pathology more often than have their male peers. The areas of obstetrics/gynecology, radiology, anesthesiology and psychiatry were selected as often by women as men.

**Table 3**
**Percentages of Arizona Graduates Choosing Specialties**

| | 1971 | 1972 | 1973 | 1974 | 1975A | 1975B | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|---|---|---|---|
| Internal Medicine | 27 | 18 | 23 | 29 | 21 | 13 | 20 | 28 | 25 |
| Family Practice | 4 | 4 | 14 | 12 | 26 | 24 | 27 | 14 | 15 |
| Pediatrics | 19 | 21 | 14 | 10 | 2 | 8 | 10 | 17 | 14 |
| Obstetrics/Gynecology | 27 | 25 | 11 | 5 | 7 | 10 | 6 | 3 | 5 |
| Radiology | 4 | 4 | 4 | 0 | 0 | 0 | 2 | 8 | 7 |
| Anesthesiology | 0 | 4 | 2 | 5 | 5 | 0 | 8 | 5 | 3 |
| Pathology | 0 | 0 | 11 | 5 | 10 | 3 | 4 | 3 | 8 |
| Psychiatry | 4 | 7 | 0 | 2 | 5 | 0 | 6 | 3 | 2 |
| Surgery | 15 | 14 | 14 | 22 | 12 | 24 | 12 | 11 | 10 |
| Other | 0 | 4 | 7 | 10 | 12 | 18 | 4 | 8 | 10 |

Male physicians, however, were more likely to specialize in internal medicine and surgery than were female physicians.

Original specialty choices of Arizona graduates by class from 1971 to 1979 are presented in Table 3. Specialties which consistently have been the least popular such as radiology, pathology, anesthesiology and psychiatry, showed minor yearly fluctuations, with no strong increase or decrease in the number of graduates selecting these areas. National statistics[2,3] for the same time span indicate that fewer graduates originally selected radiology, psychiatry, pathology and anesthesiology than did Arizona graduates. However, both nationally and in Arizona all four specialty areas have experienced slight increases since 1977. Internal medicine and surgery are specialty areas which traditionally have attracted many physicians. Although surgery was less popular than internal medicine for Arizona graduates, neither area experienced much change over the classes surveyed. National statistics reveal similar figures: approximately 30% of all students graduating in 1971 chose internal medicine, while 15% chose surgery, as compared to 1978 when 32% selected internal medicine and 20% chose surgery. During the decade from 1971 to 1979, family practice has become an increasingly popular specialty area for physicians to pursue. Arizona graduates have not been an exception: 31% of the 1979 class chose family practice versus four percent of the 1971 class. On the other hand, pediatrics and obstetrics/gynecology have experienced acute reductions in the number of Arizona graduates matching in these fields over the decade.

Not all graduates continue in their originally selected specialty areas. In fact, 18% of those graduates responding to this survey indicated that they had switched fields since graduation. Reflecting the four-to-one proportion of men to women in the total sample, 81% of the graduates switching specialty areas were men and 19% were women. As shown in Table 4, fewer physicians chose internal medicine, pediatrics and pathology as second specialty choices. The changes noted in internal medicine and pediatrics represent eight percent and six percent reductions respectively in primary care choices. Surgery, radiology
anesthesiology, however, were selected more ofte
physicians switching specialty areas than immedi
after graduation. Regardless of whether they
switched specialty areas, 85% of all physicians pla
continue in their current specialty fields.

**Table 4**
**Percentages of Arizona Gradutes' First and Second Specialty Choices**

| | First Specialty | Second Speci |
|---|---|---|
| Internal Medicine | 24 | 16 |
| Family Practice | 19 | 20 |
| Pediatrics | 11 | 7 |
| Surgery | 13 | 18 |
| Ob/Gyn | 9 | 8 |
| Radiology | 3 | 8 |
| Anesthesiology | 3 | 7 |
| Pathology | 5 | 1 |
| Psychiatry | 3 | 4 |
| Other | 10 | 11 |

**Present Employment and Practice Status**

Two-thirds of the graduates responding to the su
are practicing physicians, 55% of whom are primary
physicians in the fields of internal medicine, pedia
or family practice. Specialty certification has
achieved by 63% of the physicians who are in prac
Primary work settings for practicing physicians inc
(in ranked order): group practice, solo practice,
partner practice, federal hospital, and medical sch
Thirty-seven percent of these physicians pra
medicine in cities with populations greater than 500
An additional 40% practice in moderate-size
(population 50,000 to 500,000), while only four per
of the practicing physicians work in rural areas. Th
three percent of the practitioners are located in Ariz

An average of 11 to 20 patients are seen each da
practicing physicians with residents seeing f
patients. Surgery is performed on a regular weekly
by 19% of the residents and 30% of the practi
physicians. Those physicians who perform the
surgery (one to ten operations per week) inc

Table 5
Rankings of Current Satisfaction

| ns | Mean Ranking* |
|---|---|
| Medical preparation received from the College of Medicine | 2.2 |
| Specialty area | 1.8 |
| Daily workload | 2.3 |
| (Residents) | (2.5) |
| (Practicing physicians) | (2.3) |
| Practice (Practicing physicians only) | 2.0 |
| Life in general | 1.8 |
| Time for self | 2.8 |

e-point scale: 1 = Extremely satisfied
5 = Not at all satisfied

geons, obstetricians, gynecologists and family ctitioners.

**els of Satisfaction**

Vhen asked to state the degree to which practicing sicians and residents were satisfied/dissatisfied with ir current professional and personal situations, ponses were uniformly positive (Table 5). Both ups of graduates were considerably satisfied with the ning received from the University of Arizona, their ice of specialty, daily workload, and practice. spite a slightly lower degree of satisfaction with "Time Self," physicians were nevertheless considerably sfied with their life in general. Graduates who shifted cialty areas were as satisfied with their new specialty a as were graduates who did not switch.

Vritten comments were added by 18% of the duates. Most often, respondents provided feedback out courses and/or faculty members encountered ing their University of Arizona medical training. ch of the feedback was positive, although a number graduates offered constructive criticisms and gestions for improvement of the medical school.

**nclusion**

he mission of the College of Medicine is to train zona residents to become physicians and, hopefully, remain within the state to practice medicine. rently, there are both national and state pressures to e physicians select a primary care field. Thirty-six cent of the Arizona graduates complete their dency training within the state, 33% practice here 54% are in primary care practice. Thus, it would ear that the College of Medicine can take pride in illing its mission. In addition, its graduates report h levels of satisfaction with their specialty area and medical education they received from the College of dicine.

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*Special Article*

# Summary of BOMEX Investigative Procedure

*Questions have been raised from time to time about various activities of the Board of Medical Examiners of the State of Arizona (BOMEX). One of those questions relate to what happens when a complaint is filed against a physician. The following article is the text of a PROPOSED brochure being prepared by BOMEX explaining their investigative procedure. This should be of interest to all Arizona physicians.*

**Receipt of Complaint**

Upon receipt of a *written* complaint, a file is opened and a letter is sent to the complainant acknowleging receipt and indicating that BOMEX has initiated an investigation. *All* complaints are acted upon provided the complaint contains, at a minimum, the following basic information:

1. The doctor(s) against whom the complaint is filed, name(s) and the patient's name.
2. The dates around which the circumstances occurred leading to the complaint.
3. The details of the doctor's activities which resulted in the complaint.

In regards to the last requirement, if the activities occurred in a hospital, the name of the hospital would greatly assist the Board, and any documents which the complainant has supporting the complaint may be provided *but is not required*. If documents are provided they should not be originals. Photocopies should be sent, since they will become part of the file and be retained by BOMEX.

**Notification to Doctor**

After opening a file the usual first step is written notification to the doctor that a complaint has been filed against the doctor. The letter will contain the patient's name, the dates, and the circumstances resulting in the complaint. Since, in most cases, the complainant is the patient in question, the doctor is sent a copy of the original complaint. State law does provide for the complainant's name to be kept confidential, and the Board will comply, if the complainant requests confidentiality, as long as the relevant information can still be provided to the doctor.

The letter of notification will request that the doctor respond, in writing, to the complaint and provide all documentation (i.e., medical records, correspondence, etc.) relating to the complaint.

**Subpoena of Records**

If, during the course of the investigation the Board learns of another doctor or health care institution who may have information relevant to the complaint, the Board will subpoena the records necessary to the investigation.

**Review of Records**

After all pertinent records have been received, the complete file is turned over to one of the Board's staff physicians. The physicians are retired from active practice of medicine and are retained on salary by BOMEX to provide review, analysis, and recommendations of the medical aspects of each complaint. If, during the course of the records review, the staff physician feels that the circumstances are of such a nature that the record should be reviewed by a specialist (i.e., pathologist, neurologist, radiologist, etc.) the Board will retain the required specialist on a consultant basis to review the records and provide the Board with a written report of his findings.

**Additional Investigation**

In addition to the review of records, the complaint may require that the Board's professional investigative staff carry out supplemental investigations, including interviews, pharmacy surveys, procuring of physical evidence or any other activity which would add to the completeness of the record surrounding the complaint.

**Investigational Interview**

If, after completing a review of all the records and documents available, the staff physician feels that the information available is not sufficient to make a medical judgment, he may request that the doctor in question appear at the Board's offices for an investigational interview. *This is voluntary on the part of the doctor.* It is not before the entire Board. It provides an opportunity for the staff physician to question the doctor directly and clarify the medical issues still unclear after a review of the record. The doctor may bring legal counsel with him if he so desires. The interview will be tape recorded and transcribed and will become part of the file.

**Report and Recommendation to the Board**

When the staff doctor has completed his investigation he will write a detailed report including the facts of the case, his medical analysis of those facts, his recommendation for Board action, and a listing of the documents reviewed to generate the facts.

The staff doctor's recommendation will be based on his determination of whether the doctor is guilty of any one of the following situations, each of which is defined in State Law:

1. The doctor is or may be medically incompetent.
2. The doctor is or may be guilty of unprofessional conduct; or
3. The doctor is or may be mentally or physically unable to safely engage in the practice of medicine.

Based on his determination of the above, the staff doctor could make any one of the following recommendations for Board action:

1. **"Dismiss"**—when in his opinion there is no merit to the complaint.
2. **"File with a Letter of Concern"**—when in his opinion that, while there is not sufficient evidence to support direct action against the doctor's license, the Board should notify the doctor that continuation of the activities which led to the complaint being submitted to the Board may result in action against the doctor's license.
3. **"Issue a Decree of Censure"**—when in his opinion the action of the doctor reflects conduct that tends to discredit the medical profession, although not of sufficient seriousness to merit probation, suspension or revocation of the doctor's license. The decree is a formal order of the Board and becomes part of the doctor's permanent record.
4. **"Probation"**—when in his opinion the complaint is of such a serious nature, or the complaint, in conjunction with previous complaints, tends to suggest a pattern that the public health and safety may be jeopardized. Probation usually i for a specific period and contains specific stipulations w the doctor is required to comply with during the ter probation. The stipulations may include temporary suspen of the doctor's license, restrictions on his practice of medic requirements that the doctor enroll in a rehabilitative educational program.
5. **"Suspension or Revocation"**—when in his opinion doctor's action is of such seriousness or establishes a patt which clearly endangers the public health and safety. If staff physician recommends suspension or revocation, Board cannot take such action except at a formal hearing under the provision of the State's Administrative Proced Act. Hearings held under this law are very much like a trial court of law. There may be expert witnesses, sworn testim and legal counsel, and a written transcript of the en proceeding.

**Board Action**—Once the staff doctor has completed report and recommendation, it goes to the Board member review and final consideration at the next regular B meeting. The Board may accept the staff recommendatio modify it. The Board will take formal action on all compla and both the doctor and the complainant will be notifie writing of the Board's final action.

**Important Notes**

- All material, including medical records, staff rep investigative reports, etc., placed in a complaint file confidential and are not available for review or copying.
- The Board is not a court of law, but an administrative b and as such its review of complaints are not subject to the r of courts of law.
- Because of the extent of the investigative process, the t between receipt of the original complaint and final resolu by the Board can be from three to six months or longer.

To follow up the previous article we thought you woul interested in the following 1981 Statistical Activity Report

**1981 Statistical Activity Report**
**Board of Medical Examiners**
**State of Arizona**

**Licensure**

| | **1980** | **1** |
|---|---|---|
| Endorsement of other State licenses | 496 | |
| Endorsement with Oral Competency Examination | 108 | |
| Written Examination | 32 | |
| Total number of new licenses issued | 636 | |
| License Refusals: | | |
| Board Denied | 2 | |
| Failed Oral Examination | 12 | |
| Failed Written Examination | 21 | |
| Statutory Deficiencies | 1 | |
| Total | 36 | |
| Temporary Licenses Issued | 45 | |
| Limited Licenses | 8 | |
| Reinstatement of Cancelled Licenses | 15 | |
| License Cancellations Requested and Granted | 168 | |
| License Inactive Status Granted | 60 | |
| Revocation of Licenses for failure to Register | 141 | |
| Total Decrease | 369 | |

### Disciplinary

| | 1980 | 1981 |
|---|---|---|
| plaints: | | |
| ten complaints received | 319 | 314 |
| plaints dismissed as having no merit | 280 | 232 |
| plaints filed with letter of concern | 6 | 52 |
| rmal interview or formal ring directed | N/A | 40 |
| stigations continued | 23 | 6 |
| ractice Actions: | | |
| claims received | 241 | 207 |
| ate on claims originally eived in prior years | 125 | 147 |
| Total | 366 | 354 |
| issed | 252 | 273 |
| with Letter of Concern | 23 | 69 |
| with Letter of Reprimand | 6 | 1 |
| rmal Interview or Formal aring directed | N/A | 24 |
| stigation continued | 15 | 10 |
| al Disciplinary Actions: | | |
| sure | 1 | 1 |
| ations continued from r years | 17 | 14 |
| Probations | 8 | 8 |
| inated Probations | 3 | 5 |
| Stipulations luntary Restrictions) | 5 | 6 |
| tinued Stipulations from r years | 4 | 3 |
| mary Suspensions | 1 | 6 |
| ension | 0 | 1 |
| cation | 1 | 2 |

### Miscellaneous

| | 1980 | 1981 |
|---|---|---|
| rviews: | | |
| stigational | 56 | 67 |
| rmal | 48 | 50 |
| ationary | 19 | 37 |
| ulated | 4 | 5 |
| nse/Application | 11 | 7 |
| rmational (Requested by Physician) | 2 | 3 |
| Total | 141 | 170 |
| rings: | | |
| iplinary | 4 | 14 |
| ure to reregister | 203 | 63 |
| tinued | 2 | 6 |
| es | 1 | 0 |
| estigational & Legal Services: | | |
| rmacies surveyed | 386 | 504 |
| estigation of M.D. tiated by Board | 205 | 235 |
| estigation of non-licensed actitioners | 34 | 55 |
| estigations of Physicians' sistants | 14 | 15 |
| poena and Records Services | 1,162 | 1,012 |
| poenaes issued | 790 | 695 |
| es in litigation | 10 | 15 |
| mal administrative orders | 120 | 75 |

To give you an idea of a typical BOMEX three day meeting, the following is what happened at the December 10, 11, 12, 1981 meeting.

---

### Statistical Activities From Board Meeting
### December 10, 11, 12, 1981
### City = Maricopa and Pima Counties
### Rural = All Other Counties

---

| | Active Licenses in State |
|---|---|
| December 1981—Total Physicians in State | 4,877 |
| Physicians in Maricopa County and Pima County | 4,323 |
| Physicians in Rural Counties | 554 |

| | | |
|---|---|---|
| Informal Interviews | Total | 19 |
| Physicians from City | | 13 |
| Physicians from Rural Areas | | 6 |

| **Results of Interviews** | **Total** | **City** | **Rural** |
|---|---|---|---|
| Dismiss | 5 | 4 | 1 |
| Continue Investigation | 5 | 4 | 1 |
| File with Letter of Concern | 2 | 1 | 1 |
| Stipulation (Restrictions) | 2 | 2 | 0 |
| Continue Investigation and Stipulation | 1 | 1 | 0 |
| Probation | 3 | 1 | 2 |
| Censure | 1 | 0 | 0 |
| | 19 | 13 | 6 |

| | |
|---|---|
| Probationary Interviews | 6 |
| City Physicians | 4 |
| Rural Physicians | 2 |

Revocation 1 City Physician

**Complaint Matters for Discussion**

| | |
|---|---|
| 41 matters involving | 47 Physicians |
| | 33 City Physicians |
| | 14 Rural Physicians |

| **Results of Discussion** | **Total** | **City** | **Rural** |
|---|---|---|---|
| Interviews or Hearings Directed | 7 | 3 | 4 |
| Dismissed | 9 | 6 | 3 |
| Filed | 7 | 7 | 0 |
| Filed with Letter of Concern | 18 | 12 | 6 |
| Continued Investigation | 6 | 5 | 1 |

**Malpractice Cases for Discussion**

| | |
|---|---|
| 22 cases involving | 40 Physicians |
| | 25 City Physicians |
| | 15 Rural Physicians |

| **Results of Discussion** | **Total** | **City** | **Rural** |
|---|---|---|---|
| Interviews or Hearings Directed | 6 | 4 | 2 |
| Dismissed | 16 | 11 | 7 |
| Filed with Letter of Concern | 18 | 11 | 7 |

# Editorials

## At Year's End

It's that time of the year for your President to acknowledge appropriate appreciation to those who have shared so willingly with their efforts in the Association's activities this past year—to fellow officers, members of the Board, committee chairmen, committee members, and administrative staff. All have been responsive in commitment to assigned tasks and creditable in their actions in behalf of the Association. To observe such diversity among physicians coming together in areas where unity of action is required has had great meaning for me. As in so many other activities of life, one's rewards for being an active participant in the process far out outweigh the giving. In the midst of changing environment of technological advancement, community mood, economic pressures, and often political disfavor, the medical profession must remain steadfast in its commitment to remedy, where it can, human suffering. Ours is a serving profession. The rewards in being given such a trust by our patients will remain so as long as our ethics and individual actions toward a greater community demonstrate creditable concern, compassion, and a commitment toward their welfare. I have spoken all year toward the efforts of cost containment—it's an important problem we face—but, far more important is caring—health caring—that's our mission.

Clyde W. Kurtz, M.D.
ArMA President

## Student Research

In 1979, the College of Medicine returned to a four-year curriculum. With this change more time was available for student research activities and the level of interest in research among the students also increased. Utilizing funds supplied by AMA-ERF and other Dean's discretionary funds, a Medical Student Research Fund was established. The purpose of this fund is threefold: first, to make available research support in the form of supply monies for students working in various investigators' laboratories; second, to make available funds for travel to allow students to present their results at scientific meetings; finally, to provide stipends to students to allow them to work in research laboratories on a full-time basis during vacations.

Each fall and spring requests for funding are solicited by a committee composed of two faculty members and four students. Each applicant must develop a research proposal and provide a letter of support from a principal investigator under whose direction the research will be conducted. These applications are reviewed by the committee. If the application is funded, the student is committed to writing a summary report of his or her research at the termination of the project or to making a formal presentation at the College of Medicine Annual Student Biomedical Research Forum. The first of these was held in April of 1981. Awards were given for the best presentations. One award went to a member of the Class of 1983 for research entitled "The Verification and Clinical Demonstration of the Echo-Doppler Series Effect." Another student in the Class of 1982 was recognized for a presentation on "Heterogeneity of Benzodiazapine Receptors." Both of these presentations were repeated at national science meetings and gained significant acclaim.

In May 1981, the University of Arizona received a five-year grant from the National Institute of Health to support a Medical Student Research Training Program. This program includes fellowships, allowing sixteen students to participate in research experience over a period of two to three months. Furthermore, the program provides a student research club, career counseling, clinical correlation seminars, and a series of seminars entitled "Close Encounters With Great Biomedical Scientists." The support provided through this grant, will give students the opportunity to actively participate in research laboratories and allow them the opportunity to determine their suitability for academic research careers. At present, there are students working with faculty from almost every department within the College of Medicine. Research support is also available through a grant to the Cancer Center and individually through the Arizona Heart Association, The Cystic Fibrosis Foundation, Muscular Dystrophy Association and The March of Dimes.

Since the inception of the College of Medicine, students have been able to obtain both an M.D. and a Ph.D. degree, however, until very recently this was not a formalized program. With the beginning of the spring semester of 1982,
College will be offering a joint M.D./
program. This program will help dev
the clinical scientists of the future. U
this program, students who have b
admitted to the College of Medicine
apply for admission into the joint de
program. This program will take fro
to seven years and both degrees wi
awarded concurrently. At the pre
time, students have the opportuni
obtaining their Ph.D. training in
Departments of Anatomy, Biochem
Molecular and Medical Microbio
Pharmacology and Physiology. The
participant in this program will receiv
Ph.D. from the Molecular Bio
graduate program administered by
Department of Molecular and Me
Microbiology. It is hoped that, in
future, opportunities for joint deg
will be made available through c
departments in the University.

The College of Medicine
accomplished faculty both in the cli
and basic science research ar
Opportunities for research with t
scholars will provide students wi
broad background and gr
opportunities. These resea
experiences lay the foundation enab
students to make signific
contributions to the advancemen
medical sciences throughout t
careers.

Andrew M. Goldner, Ph.D.
Associate Dean for Student Affairs
Louis J. Kettel, M.D.
Dean

## Is It Worth It?

Those of us who have pract
medicine in Arizona for a numbe
years have witnessed incredible cha
some good—some not so good.
faces come happily and old faces
sadly; that is the natural order of thin
is the looks of worry, apprehension
despair seen daily on some of our f
that are just cause for our collec
concern.

Doctors are suit conscious and
good cause. The public is acutely awa
enormous settlements given to pe
who have sued their doctors for alle
malpractice.

On September 22, 1978, I went to
East High-Camelback High football ga
The game was played at East High Sch
My son, Mike, played tackle
Camelback. During the course of

ne, one of my son's teammates stained a broken neck and adraplegia. Along with the coaches d officials of both schools, I went on to field to offer help. I was under no ligation other than to myself. I never ce considered not trying to help. The y was paralyzed and had trouble eathing. I was afraid that he might die m his apparent high spinal cord injury. was evacuated by ambulance to St. eph's Hospital. I visited this young n, as a friend a number of times while was hospitalized. I later took his ture at the football banquet and on the otball field surrounded by his mmates.

n September of 1980 I was sued by this y and his parents for more than $7 llion. After the suit was filed, I was ntacted by the Arizona Board of edical Examiners and informed that the ident was under investigation. I swered all their questions. Following investigation, I received the following ter from the Board of Medical aminers:

*ril 7, 1981*

*: Christoph Luebke vs. Cecil Vaughn,*
*D. - Malpractice*

*cil Vaughn, M.D.*
*North 18th Avenue*
*oenix, Arizona 85006*

*ar Doctor Vaughn:*

*The Arizona Board of Medical aminers met on March 12, 1981, to view administrative and investigative tters as required by Arizona law.*

*Following a review of all pertinent ords, reports and recommendations of Board's investigating member and ff physicians regarding the above-erenced case, the Board concluded in en Session that there was no evidence incompetence or unprofessional nduct on your part, and therefore filed matter.*

*The Board of Medical Examiners would e formally to express its sincere preciation for your cooperation and tience in the review of this case.*

*ncerely,*
*ard of Medical Examiners*
*te of Arizona*
*uglas N. Cerf*
*sociate Executive Director*
*NC:jl*

The expense in money, time, and trage suffered by me and my family nnot be measured. I went about my siness and did not discuss this suit cept in deposition. On March 15, 1982, I ived at the hospital only to be shown front page spread in the Arizona public about the "Good Samaritan it." The response from doctors across state has been reassuring to me.

The Good Samaritan Law was enacted 1967 by the Arizona Legislature. The law states that physicians are not liable while rendering emergency care at a public gathering or at the scene of an emergency occurrence, gratuitously and in good faith. I have yet to answer in court. The wheels do indeed turn slowly. Under Arizona law, this is a hallmark case as the Good Samaritan statute has as yet been untested. The legality of these matters are to be adjudicated shortly.

What will you do the next time that you come upon the scene of an accident and people have been injured? Will you stop and help? Will you help an athlete injured in a game that you attended to enjoy?

I have answered to my peers, my conscience, and the Arizona Board of Medical Examiners, in that order.

The day that a doctor holds back and doesn't stand forward to help another human being is the day that a doctor should not stand at all. Is it worth it?

Cecil Vaughn, M.D.
Phoenix

# Can We Afford Not To Finance Psychiatric Care?

*A Guest Editorial*

The State of Arizona is embarking on a challenging experiment in its attempt to care for the medically indigent under the provisions of the Arizona Health Care Cost Containment System (AHCCCS). In wrestling with the various financial constraints operating in providing such care, the Legislature has chosen to severely limit psychiatric care. Fearing that the provisions of psychiatric services might break the system finanically, the Legislature has chosen to restrict psychiatric services to acute care only and, at the time of this writing, have interpreted acute care to be that provided only within the walls of a general hospital.

I do not wish to quarrel with the position of limiting psychiatric care to acute care. We cannot dismiss the concerns of the Legislature that the provision of unlimited mental health care to the medically indigent through the private sector could present a substantial financial drain upon AHCCCS. Save for one preliminary study, the cost impact of the research on providing unlimited mental health services to the medically indigent is inconclusive.[1] In addition we already have in place, via the state Department of Behavioral Health Services some, albeit limited, resources for providing care to the chronically mentally ill.

Nor do I wish to place blame on the Legislature for its lack of wisdom. In drafting the AHCCCS bill, the Legislature was functioning under enormous time constraints and had to cope with multiple constituencies offering conflicting information.

Finally, I do not wish to quarrel with the ethical and humanitarian question of the effects that psychiatric service exclusion will have on the quality of life for the medically indigent. There is an abundance of research to indicate that the provision of psychiatric services has a positive impact on most of its consumers. Unfortunately, much of the research is vague and the difficulties of measuring "quality" challenges the resources of the most rigorous of researchers.[2] Furthermore, we must remain aware of the political suspicions involved in providing any service that focuses on quality rather than medical necessity, particularly in those instances where public funding is concerned. *My quarrel with the current AHCCCS provision on Mental Health is that it is financially short sighted.*

In his recent review of the subject, Lipowski indicates that from 12 to 15 percent of adult patients visiting family physicians had symptoms of emotional disorder and that these patients account for an estimated 30 percent of all office visits during any one year.[3] The prevalence of depression among medical inpatients alone ranges from 20 to 25 percent. Several studies indicate that there is a positive association between psychiatric and physical illness.[4] To complicate matters further, Koranyi's study disclosed that almost half of 43 percent of psychiatric clinic patients suffered from one of several physical illnesses which remained undiagnosed by the referring physician.[5] My speculation is that once classified as a "crock," these patients had difficulty being seen clearly by a primary physician as having medical problems.

Two very elegant studies published in 1982 demonstrates that psychiatrically-disturbed patients use general medical services with an average frequency ranging from 1.4 to 1.9 times as high as patients without such diagnoses.[6,7] Our own research demonstrates that the provision of outpatient psychiatric services in a setting concentrating on time-limited psychotherapy, more than pays for itself in the savings resulting from lower utilization of inpatient psychiatric services.[8,9]

In reviewing thirteen prepaid and indemnity insurance programs, Jones and Vischi have shown that the provision of mental health services yields a reduction in medical care utilization ranging from 5 to 85 percent with a median of 20 percent.[10] In a closely supervised, closed-panel setting, every dollar spent providing mental health services was offset by a $1.33 savings in the provision of general medical services. Several conclusions emerge from the above:

1. Mentally-disturbed patients will use medical services—psychiatric, surgical or medical—at a higher rate than the general population.
2. If not treated at a level appropriate to their need, mental health patients risk costly overutilization of general medical services.
3. We have not tested the cost-effectiveness of providing unlimited mental health services to the medically indigent population. The risk remains that provision of unlimited services could overextend the finances of the system.
4. The risk of not providing services, particularly acute outpatient psychiatric services, may be even greater.
5. The limitation of psychiatric services to those which could be provided in a general hospital rather than an outpatient setting, is a particularly costly constraint.

**Recommendations**

1. The state could assure itself of a reasonable expenditure limit by placing a maximum on the benefits provided to each patient. This neither solves the problem of the chronic patient who ultimately must be diverted to other state resources, nor solves the problem of the provider who does not have ready access to state-financed resources.
2. There should be provision for both acute inpatient and outpatient psychiatric care. This too, should be limited. The primary physician should remain the focus of all care and should retain authority for authorizing all psychiatric services. To recommend a specific formula for the number of outpatient consultations and the number of inpatient days for the medically indigent population is quite speculative. Reiger and his colleagues reassure us that patients studied in four separate clinical facilities (three of which were prepaid) could be treated in an average of from two to nine consultation-visits per year.[7] Many acute, life-threatening, psychiatric crises can be effectively treated by combining a brief, e.g., up to seven days, hospitalization with prompt and accessible outpatient psychiatric management.[11] Thus, a reasonable, but restrictive benefit package for the medically indigent might offer up to seven days of inpatient psychiatric consultation as authorized by a primary physician.

**Summary**

In providing a structure for medical care of Arizona's indigents, the Legislature must balance the needs of its constituents as well as budget demands and long-term consequences of its actions. Failure to fund adequate psychiatric care will prove to be not only inhumane but financially shortsighted as well.

Thomas E. Bittker, M.D.
Medical Director
Medical Care Administration Division
Arizona Health Plan

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# Auxiliary Highlights

Arizona's County Medical Soci Auxiliaries continue to emphasize he education and health service project

Their activities are truly impressive, ArMA Auxiliary President Janet Hoffm

Here's a county-by-county rep compiled by Carolyn Corrigan, Ar Auxiliary vice president and he project coordinator.

**Coconino County**

This year Coconino's Auxili distributed "Early Start to Good Hea packets to the libraries of Flags elementary schools and continued MATCH project, which collects and signed release forms from pare allowing physicians to treat a child in emergency situation when the par might not be available.

Coconino also raises money fo scholarship for a Northern Ariz University student in a health related f and contributes to other commu projects. Connie Vorpahl has b Coconino's president this year and Benson has served as commu education chairman.

**Maricopa County**

Maricopa's Auxiliary is known several health projects it originated which spread rapidly to other cour across the nation. Because these proj continue to meet real needs, Maric emphasized them again this ye putting money, time and energy making them the very best. Presic Carole Jallo says the GEMS babysit classes graduated more than 1 students, the nutrition puppets Catastrophe Cottage were taken schools, the program in nutrition for elderly was continued, and Early Star Good Health promoted.

Maricopa Auxilians sponsored anot Emergency Run in February and studi new project, human organ donation an April meeting. Proceeds from Holiday Boutique ($1,974.85) will applied toward the purchase of m GEMS manuals. Genevive White chai Maricopa's health education and wel committee.

**Mohave County**

County President Kathy McAndre Health Projects Chairman Lori Nel and the Mohave Auxilians h continued their involvement in a school eye screening program an series of classes for expectant pare They are particularly concerned ab substance abuse and have taken the l in educational programs for sch children and their parents. Auxil n played an important part in the nmunity health fair held in April.

Iohave's Auxiliary has also been olved in the planning of an expanded nily Life course for high school dents, which would include a study of e and female anatomy, pregnancy, ereal diseases as well as guest speakers l discussions on sexuality, the ponsibilities and possible conse- nces of pre-marital sex, alternatives how to say 'no!'

**a County**

ima's Auxiliary has conducted two AS courses, sent the nutrition puppets each week to grade schools, held its ond annual Shape Up for Life family day, participated in Tucson's Health '82, continued its support of Mobile als and sponsored its seventh annual men Aware day.

nder President Marilyn Haas' dership, the Auxiliary has successfully iated a new substance abuse vention course for fifth and sixth ders called "Let's Talk" and an ormational program on medications senior citizens called "Elder Ed." Joyce npkin, chairman of the substance abuse prevention committee, says "Let's Talk" is a two-part program which covers communication skills, ways of handling stress, and basic information about drugs, alcohol and smoking so young people can make responsible decisions. Eve Dickstein, chairman of the aging committee, also heads the Auxiliary's Elder Ed teams.

Meanwhile, enthusiasm for the Human Adventure Center continues to grow. An Auxiliary committee chaired by Faith Anderson and Melinda Carrell is spearheading a campaign to plan and finance a health education museum for Southern Arizona.

**Yavapai County**

Yavapai County Auxiliary, whose president this year has been Freddie Dahn, came up with a health education project that's a real winner. It's a play, "The Beautiful Package," about substance abuse and it's being presented to school children in grades one to four by Auxilians. The other counties got a preview of the skit at the state board meeting in February.

Yavapai has continued to provide refreshments for the quarterly Kiwanis blood bank drives. It held a CPR class for members in November, awarded two nursing scholarships, and provided gifts for Meals on Wheels recipients.

**Yuma County**

Yuma's Auxiliary provides an orientation and tour of the hospital for all elective pediatric surgery patients and their parents, designed to alleviate fears of the youngsters. The Auxilians first present a slide show for the young patients explaining hospitalization procedures. Then an Auxilian, costumed as the Pink Panther, takes the youngsters and their parents on a tour of the hospital, from admission to discharge.

Yuma, which has had a very successful breast self examination training program in the past, has gone on to provide support for mastectomy patients by donating prosthesis to needy patients. Yuma also provided $310 for a nursing scholarship, created the decorations for the Hospital Foundation's spring dance, and stressed good nutrition with a low calorie dinner at its January meeting, report Auxiliary President Shirley Morris and Health Projects Chairman Jo Ochsner.

## *Briefly Noted*

**Oliver J. Harper, M.D.**, Peoria, has been cted chief of staff at Walter O. Boswell morial Hospital for 1982. Also elected re **William J. Kennell, M.D.**, of Peoria, retary-treasurer, and **Cherryl B. fstetter, M.D.**, of Sun City, member-at- ge.

**letcher E. Zimpfer II, M.D.**, Mesa, has sed the examination for certification special competence in Dermatopath- gy which was given by the American rd of Dermatology and the American rd of Pathology in Chicago last vember.

**ennifer Wing, M.D.**, Tucson, spoke to class of fourth and fifth graders at nzo Elementary School in Tucson out career opportunities in medicine women. Dr. Wing was one of three fessional women invited to the school ing National Women's History Week.

**ohn Michael Lewis, M.D.**, Tucson, has en certified as a diplomate of the erican Board of Emergency Medicine.

**Gabriel F. de Freitas, M.D.**, Phoenix, has en appointed to the National Advisory earch Council of the National titutes of Health in Bethesda, Maryland. Dr. de Freitas and 17 other health-science authorities will evaluate research-grant applications and develop future research resources.

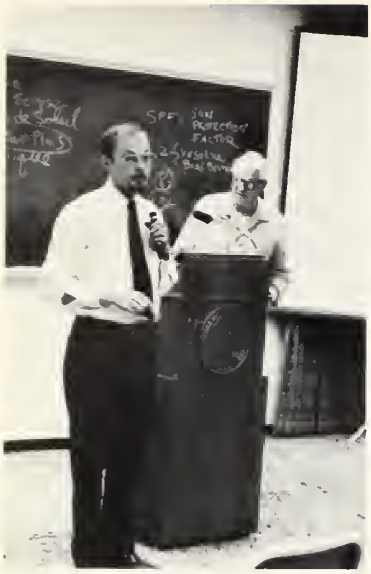
More than 400 women attended the day-long **Women Aware** seminar sponsored by the Pima County Medical Society Auxiliary March 23, 1982, at the University of Arizona Student Union. Tucson physicians participating in the program discussed the following topics: **Stephen S. Cox, M.D.**, "Old Age is Not a Disease;" **Arthur M. Goldberg, M.D.**, "Patient-Doctor Interactions;" **Karen C. Larson, M.D.**, "How to Feel Better About Waiting in Line;" **William E. Miller, M.D.**, "Allergies: Do I have Them? Should I Do Anything About Them?;" **Richard S. Popeski, M.D.**, "That Elusive Goal. . .Self Esteem: How Do Our Children Obtain It?;" ArMA president **Clyde W. Kurtz, M.D.**, of Phoenix discussed "Getting the Most for Your Medical Dollar."

**Mehernaz N. Irani, M.D.**, Casa Grande, participated in a day-long workshop, **Women of '80** on February 27, 1982, at Central Arizona College. Dr. Irani also recently donated a Thyrotek thyroid testing machine to Hoemako Hospital in

### "What They're Saying"

One more country is learning that a "free health care system" is often "inefficient and inequitable." *The China Daily*, a Peking newspaper, said recently, "More often than not, those in important positions or on good terms with the doctor can obtain effective medicine while for the rest of us, this is sometimes extremely difficult or impossible." The article also said medicines were often dumped "like rubbish because one can obtain these pills for the asking. No doubt one would think twice about throwing them away if the cost came out of one's own pocket."

**Continued on next page**



## Current Perspectives
## "Pediatrics"
## &
## Women Aware

Casa Grande for use by both the hospital staff and private physicians.

**James E. Jones, M.D.**, Mesa, has been elected president of the Arizona Society of Anesthesiologists. Other 1982 officers are **Robert A. Baratz, M.D.**, Phoenix, president-elect; **Charles W. Otto, M.D.**, Tucson, vice-president; **Sergei L. Snegireff, M.D.**, Scottsdale, secretary; and **Fred H. Landeen, M.D.**, Tucson, treasurer. Members of the Board of Directors are: North Central District—**Roland M. Couche, M.D., Robert W. Croddy, M.D.**, and **R. J. Zeluff, M.D.**, Phoenix, and **Donald D. Preuss, M.D.**, Scottsdale. South Central District—**Larry R. Putnam, M.D.** and **Ronald W. Yakaitis, M.D.**, Tucson. Western District— **Robert A. Butler, M.D.**, Lake Havasu City. ASA Delegates—**James C. Zemer, M.D.**, Phoenix, and **Casey D. Blitt, M.D.**, Tucson. ASA Alternate Delegates—**Donald D. Preuss, M.D.**, Scottsdale, and **Sergei L. Snegireff, M.D.**, Scottsdale. **Eldon S. Reed, M.D.**, Phoenix, is the immediate past president.

**Thomas P. Foerster, M.D.**, Peoria, chairman of ArMA's Sports Medicine Section, led off the **Health Talks** series March 31, 1982, with a presentation entitled **"On Your Mark, Get Set. . .Exercise."** The health information series is presented as a public service under the co-sponsorship of the Arizona Medical Association a Blue Cross and Blue Shield of Arizon

ArMA members who participated the Association's 8th Annual Sp Medicine Symposium February 5-7, 19 are: **Ronald W. Barnet, M.D.**, Phoeni **Dennis W. Berry, M.D.**, Phoenix; **Willi C. Brainard, M.D.**, Phoenix; **C. S Colachis, M.D.**, Phoenix; **Robert Hagan, M.D.**, Co-chairman, Phoenix **Timothy R. Harrington, M.D.**, Phoeni **Thomas P. Foerster, M.D.**, Peoria; **Char C. Hopmans, M.D.**, Phoenix; **Eli Krigsten, M.D.**, Phoenix; **Roman Lewicky, M.D.**, Flagstaff; **Errol R. Swe M.D.**, Phoenix; and **John Utz, M.** Tucson.

## Medical History

# t Bowie Hospital

W. Kennedy, M.D.

ere has recently been published a complete review of the history of this together with rather explicit Army ords or portions thereof, concerning ospital.[1]

is account goes, in part, something this, "Fort Bowie consisted of two nct posts, the first of which lasted 1862 until 1869, when it was eeded by a new and larger fort, built hundred yards away from the earlier Both posts, and especially the first, erected at commanding positions ut three miles east of the summit of che Pass in the northern part of the ichahua Mountains. Despite its ving notoriety as a place of Indian ush, plunder, and murder, Apache with its bountiful springs continued e a landmark for travelers. In 1857 a route from San Antonio to San Diego traced through the Pass and a year the Butterfield Overland Mail pany selected it for the location of of its stations. But the Civil War ed the closure of the Butterfield route the mail station at Apache Pass was ndoned. It assumed importance a bit when, in July 1862, volunteer troops California fought a desperate battle Cochise's warriors for control of the ral springs. So important did dier General James H. Carleton ider this watering place on his supply between Tucson and El Paso that he red the erection of a permanent son facility. Thus began the turbulent ry of Fort Bowie, guardian of Apache for the next thirty years. Descriptions e original hospital are meager but it been described like this, "Probably large structure built of logs and ted near the corral was the Post pital, as suggested in the verbal ription—a log house and a cellar like n containing three or four beds." In , the first fort was superseded. The hospital there was described as ws: "The hospital at Fort Bowie for t of the post's existence was in this ding, an adobe structure of one large two small rooms with a flat mud roof ted late in 1868 as a quartermaster house. It served various functions at s, and was the guardhouse, at other s the adjutant's office. The rooms, north to south, consisted of a storeroom, a wardroom, a combination dispensary, office and storage room. Doors were located on the east side of the building for each room except the ward which was reached through the dispensary. Capacity of the ward was eight beds. Four to five windows were situated along the west or rear side, and a fireplace and chimmey stood at the south end of the structure. The earthen roof of the hospital was covered with a coat of lime cement."

**The new hospital at Fort Bowie circa 1890. Photo courtesy Arizona State Library.**

The hospital was damaged by the heavy rains of early 1874 and its condition was deemed "untenable," although repairs were evidently made towards the end of the year. A needed addition was erected at approximately this time, a wing off to the north rear of the structure and at right angles to it.

All of the fort buildings were made of adobe and the roofs were always leaking. The account continues, "Every measure was taken to prevent the roof of the hospital from leaking. In 1876 an adobe roof was placed on the new addition. Two years later the post surgeon reported that the roofs of the hospital and out building required repairs." All this time the post surgeons were requesting that a new hospital be erected. "This hospital," wrote an inspector in the summer of 1880, "I consider the poorest in the Department in regard to adaptability of the building."

Sanitation was as primitive as the hospital and the following is a description. "Privy. This large hip roofed outhouse was erected at the north east corner of the corrals in about 1886, apparently at the time, the back of the enclosures were being altered. Probably built of adobe, the structure served as an earth closet, or sink, until 1889 when a pipe drainage system was installed at Fort Bowie. Thereafter it functioned as a water closet for the enlisted men and was 'frequently flushed out when water can be spared'."

In May 1887, drawings and estimates for a new hospital building to replace the old, were prepared and submitted for approval by the War Department. The account continues, "Construction on the new building actually got under way in late 1888 or early 1889. The site selected for it was on a rise of ground off the southwest corner of the post and away from the potential garrison noises. Thirty thousand adobe bricks were furnished under contract by laborers employed by the post trader at Fort Bowie. Towards the end of March 1889, an officer reported that, "A foundation for a new hospital has been laid and the adobes and woodwork for the building are nearly ready." There were some starts and stops due to lack of funds, and due to rumors that the post would be abandoned, but finally it was completed and in addition a hospitals' stewards' quarters were built in 1889. The fort was finally closed in 1892 and it soon fell into disarray and little remains except some mouldering adobe walls.

### Reference

1. *Historical Structural Report, Fort Bowie 1862-1894.* Fort Bowie Historical Site, Jerome. Greene A (ed), Park Service, Depart. Interior, 1980.

## ArMA Reports

**The minutes appearing in this section have been condensed. A complete copy of the minutes of any meeting will be mailed to any member requesting them.**

### LEGISLATIVE COMMITTEE

The Legislative Committee met on February 20, 1982. The following bills were presented, discussed and postions taken.

**Lobbyist Report:**

**SB 1191—Medical Liability Review Panels**
Allan Stanton, ArMA lobbyist, informed the committeee that the medical liability review panel bill will be considered by the Senate Health Welfare and Aging Committee on Monday, February 22, 1982. ArMA, ArHA, and MICA will offer amendments to the bill and it is expected that they will be adopted. Received for information only.

**SB 1058 and HB 2175—Hospital Privileges for Podiatrists**
HB 2175 has passed the House and is awaiting action in the Senate. The Association continues to offer active nonsupport to SB 1058 and to support the position of the Arizona Hospital Association. Mr. Stanton indicated that he would like to talk with any doctor about the history of this legislation and it was suggested that a brief message on the bill be included in Medical Memos.

**SB 1025—Child Passenger Restraint System**
The committee was briefed on the status of this bill, presently it is ready for action in the Senate. It was moved and carried to recommend to the Board of Directors that the Association commit time and money to a program of public education in child passenger restraint systems. It was further recommended that the Arizona Hospital Association and the ArMA Auxiliary be asked to participate in such a program.

**HB 2020—Insurance Benefits for Chiropractic Services**
This bill has moved out of the House without committee action and is now in the Senate. The Assocation will continue to offer active nonsupport.

**HB 2052—Look-Alike Drugs**
This bill has passed out of the House with an amendment offered by the Association. Active study is still the position of the Association.

**House Bills:**

**HB 2117—Midwifery (As Amended by the House)**
This bill has been amended substantially and there will be a need for medical testimony when it is heard in the Senate. It was moved and carried to offer active nonsupport.

**HB 2202—Naturopathic Board of Examiners**
Mike Smith briefed the committee on this bill indicating that the amendments by the Tourism, Professions & Occupations Committee have given the Board of Medical Examiners some serious concerns. The bill would expand the scope of naturopathic practice and has some major problems in the definition section. It was moved and carried to offer active nonsupport.

**HB 2211—Board of Dispensing Opticians; Continuation**
This bill has been appointed to a subcommittee of the Tourism, Professions & Occupations Committee for a rewrite and will be drastically different when considered by the full committee. It was moved and carried to actively study HB 2211.

**HB 2237—Death Certificate; Indian Reservation**
It was moved and carried to take no action.

**HB 2248—Schedule IV Controlled Substance**
It was moved and carried to take no action.

**HB 2264—Limitation on Regulatory Authority of DHS Director**
It was moved and carried to take no action.

**HB 2273—Osteopathic Physicians**
It was moved and carried to offer active support for H.B 2273 (Upon recommendation of the Arizona Osteopathic Medical Association.)

**HB 2283—Insurance; Home Health Services**
It was moved and carried to take no action.

**HB 2284—Ownership of Health Records**
It was moved and carried to offer active nonsupport.

**HB 2285—Clinical Laboratories; request for and Collection of Specimens and Human Blood**
It was moved and carried to offer active nonsupport.

**HB 2286—Certification and Practice of Certified Nurse Practitioner**
It was moved and carried to offer active nonsupport.

**HB 2287—Clinical Pharmacist Practitioner**
It was moved and carried to offer active nonsupport.

**HB 2293—Authority to Review Hospital Rates Abolished**
Chic Older stated that the position of the Arizona Hospital Assoication is nonsupport for this bill. It was moved and carried to take no action.

**HB 2325—Podiatry Board; Continuation; Malpractice Claim Review**
It was moved and carried to take no action.

**HB 2326 Board of Chiropra Examiners; Continuation**
The committee discussed this bil detail and identified some of wording which should be striken f the bill. It was moved and carried to c active nonsupport to any aspects o bill that deal with the expansion o scope of their practice.

**HB 2329—Joint Legislative Comm on Mental Health Services**
It was moved and carried to take action.

**HB 2332—Supplemental Appropria Mental Health Subventions**
It was moved and carried to take action.

**HB 2334—Supplemental Appro tions; Emotionally Handicapp Subventions**
It was moved and carried to take action.

**HB 2370—Abortions; Pare Notification**
This bill deals with notifying paren an abortion requested by an unma minor woman. The committee felt there were some serious legal probl with the bill that should be cleare before a position could be taken. It agreed that the committee's pos should not be viewed as either fo against abortions but concerned legal aspects only.

**HB 2376—Home Health Services**
It was moved and carried to offer ge support

**HB 2379—Alcoholism and Drug A Fund**
It was moved and carried to take action.

**HB 2389—Child Protection Act**
This bill is identical in all respects t 1086. The committee expres concern over the definition of a pe It was moved and carried to take action.

**HB 2400—Maternal and Child He Services**
It was stated that Allan Stanton wi working closely with the Maternal Child Health Care Committee on bill. It was moved and carried to active support.

**HB 2403—Comprehensive He Planning**
It was moved and carried to take action.

**HB 2409—System; Home Health**
It was moved and carried to offer ge support for HB 2409

**HB 2464—Doctor-Patient Privil Elimination**
It was moved and carried to offer a nonsupport.

**HB 2475—Pharmacists; Third P Prescription Programs**
It was moved and carried to take action.

**2515—Pharmacy; Quadruplicate**
**cription Requirement**
lynn suggested that if this bill fails,
egislative Committee should try to
with the Department of Public
y and pharmacists to see if an
ement could be reached on the
er way to address the problem. It
moved and carried to offer active
upport.

**2517—Prescription and Certain**
**ted Drug Records; Confidentiality**
as moved and carried to take no
n.

**2020—Legislative Commission;**
**hol and Drug Problems**
as moved and carried to take no
n.

**te Bills:**

**086—Child Protection Act**
as moved and carried to take no
n.

**1123—Placement or Transfer at**
**nt Request to Certain Institutions**
s moved and carried to offer active
upport.

**185—Registered Nurse Practitioner**
s moved and carried to offer general
ort.

**191—Courts and Civil Proceedings;**
**ical Liability Review Panels**
as moved and carried to actively
y SB 1191.

**193—Health Occupations Board of**
**ew**
s moved and carried to offer active
upport.

**1195—Adults Under Guardianship;**
**rting Injuries**
committee acknowledged the
lem of adult abuse but felt that the
tal abuse definition is too broad. It
moved and carried to offer active
support.

**228—Smoking on Buses**
s moved and carried to offer active
ort.

**1245—Professions and Occupa-**
**; Acupuncturists**
Smith briefed the committee on
bill and stated that BOMEX will
fy against the bill. It was moved and
ed to offer nonsupport.

**—Health Care Peer Review;**
**fidentiality**
as moved and carried to offer active
support.

**267—AHCCS; Correctional Bill**
as moved and carried to take no
n.

**282—Certificate of Need**
as moved and carried to take no
n.

**1284—Comprehensive Health**
**ning and CON Amendments**
as moved and carried to take no
n.

**1296—Governor's Council on**
**elopmental Disabilities**
as moved and carried to take no
action.

**SB 1310—Regulated Professions and Occupations; Telephone Directory Listing**
Members of the committee stated that they were in favor of accurate information in the yellow pages. It was moved and carried to actively study SB 1310.

**SB 1320—Arizona Health Facilities Authority**
It was moved and carried to take no action on SB 1320.

**SB 1321—State Health Planning**
It was moved and carried to take no action.

**SB 1345—Adolescent Life Support Commission**
It was moved and carried to take no action.

**SB 1352—Criminal Liability; Mental Disease or Defect**
It was moved and carried to take no action.

**SB 1363—Education; Long-Term Gerontology Center**
It was moved and carried to take no action.

**SB 1385—Professions and Occupations; Medical Practice Act**
Mike Smith discussed the provisions of the bill. ArMA's Professional Committee will study the bill and make a recommendation to the Legislative Committee. It was moved and carried to actively study SB 1385.

## PROFESSIONAL COMMITTEE

The Professional Committee met on March 16, 1982. The following reports were given and motions made.

Four resolutions were presented to be introduced in the ArMA House of Delegates meeting. One proposed resolution dealt with the labeling of the sodium content of foods. After discussion and two minor language changes the committee moved and carried to recommend to the Board of Directors that a resolution on sodium labeling be introduced in the ArMA 1982 House of Delegates meeting. *(A copy of this resolution may be obtained from the ArMA office).*

The committee recognized the good intentions of the other three proposed resolutions, but felt they would restrict the rights of the individual and would be difficult to administer and enforce. It was moved and carried that the Professional Committee not recommend introduction of resolutions dealing with 1) Salt and Hypertension, 2) Empty Calories, 3) Nutrition and Food Stamps.

**Section Reports**

**Section on Allied Medical Groups**—William E. Cain, M.D., Chairman. It was reported that the Mountain States Health Corporation was requesting input on ways of developing physician/geriatric nurse practitioner relationships.

**Section on Mental Health and Substance Abuse**—Murray DeArmond, M.D., Chairman. The AMA survey on Prescription Drug Abuse was received for information. Dr. DeArmond reported the Legislative Committee's position of active nonsupport for HB 2515 regarding quadruplicate prescription forms.

**Section of Athletic Medicine**—Thomas P. Foerster, M.D., Chairman. Dr. Foerster reported on the success of the 8th Annual Sports Medicine Symposium held in February and that plans for the 1983 symposium would begin soon. He also outlined the B.A.S.I.C. program which is scheduled for April 3 and July 31. Concern has been expressed about the lack of protection for physicians and others who provide treatment of injuries during youth athletic events. Dr. Hanss explained that the Subcommittee to Study the Medical Practice Act met and it was the overall feeling that since the Good Samaritan clause was part of the common law, to try to expand this clause to include sports activities would not alter common law. Dr. Foerster and other section members have met with legislators and feel that another approach could be tried. It was moved and carried to recommend to the Board of Directors that legal counsel be requested to develop a means by which physicians and other health providers will be protected from lawsuit as a result of agreeing to treat injuries sustained by young athletes during school and other youth athletic events. It is understood that acts of gross negligence would be excluded from such protection. The committee also discussed the risk to physicians who are covering school athletic events as game physicians. It was moved and carried that if the problem of protection is not solved, it is recommended that ArMA members be appraised of the risk currently involved to those physicians who are serving as "game physicians" for school athletic events.

**Section on Aging and General Medicine**—Robert L. Hagan, M.D., Chairman. Dr. Hagan reviewed the draft for the establishment of a long term care gerontology center which was submitted by the University of Arizona to the Statewide Advisory Committee. It was decided that inquiry should be directed to various areas in the state with a high percentage of senior citizens about the implications of the proposal; and, that the county societies should be made aware of the it.

**Section on Disaster Medicine and Emergency Care**—Barry A. Kriegsfeld, M.D. and James Lawson, M.D., Co-Chairmen. Dr. Kriegsfeld informed the committee of the Division of Emergency Services information on disaster plans for Arizona. Also, a letter had been sent to AEMS in hope of establishing dialogue, but there has been no response. Dr. Lawson outlined the Civilian-Military Contingency Hospital which would provide medical support facilities in the event of war. He also reported on his tour of the Palo Verde Nuclear Plant and the saftey precautions that are part of the entire system.

**Section of Health Education**—Warren L. Niccum, M.D., Chairman. The Arizona School Health Association has asked ArMA to become a member. It was moved and carried to recommend that the Arizona Medical Association accept the invitation to become a member of the Arizona School Health Association.

**Advisor to ArMA Auxiliary**—James B. Scott, M.D. Chairman. The ArMA Auxiliary has asked the committee to endorse a health education program developed for use by elementary level students. It was moved and carried to recommend that ArMA endorse the health education supplement to the basic skills project for school children K-3 and encourage its use throughout the Arizona school system.

The following sections presented reports that were received for information: Section on Public Health, Section on Poison Control and Section on Safety.

The Subcommittee to Study the Medical Practice Act has met and indicated that BOMEX and ArMA are in agreement on most of the proposed changes.

The Executive Committee referred a request from Physicians Education Network, Inc., regarding treatment of dyslexia for this committee's recommendation. It was moved and carried to recommend to the Board of Directors that ArMA support the position of Physicians Education Network, Inc. regarding treatment of dyslexia as stated in letter dated July 1, 1981, and consider introduction of legislation in Arizona to require treatment of this condition only by persons appropriately certified.

The committee reviewed correspondence from Merrell Dow Pharmaceuticals, Inc. concerning the revisions of the Medical Practice Act and it was moved and carried to recommend no change in the language concerning use of amphetamines for treatment of obesity, as contained in the proposed revised medical practice act.

## EXECUTIVE COMMITTEE

The Executive Committee met on March 26, 1982. The following items were discussed and motions made.

**Arizona Health Care Cost Containment System**

Henry Foley Ph.D. reported extensively on the current status of the access program. There has been a tremendous amount of physician input and although there have been some slippages in the time schedule they hope to meet the October 1, 1982 deadline.

Richard Greenfield, of the ArMA staff, reported on the work he is doing with all the M.D. members of the various technical subcommittees of the ad hoc committee. He pointed out that we had offered his assistance to the Department which had, for a variety of reasons, been refused, and that our most important input will be immediately after the first draft of the rules and regulations appear, at which time we will be in a position to review them and recommend specific wording for changes. Mr. Robinson said that Mr. Greenfield prepares a weekly summary of the activities and it is available to any committee member.

It was moved and carried not to continue our membership in the Arizona Council of Professions.

**Contingency Fund**

In the matter of specificity in the guidelines of the Executive Committee's contingency fund, it was moved and carried to refer this to Clifford D. Debenedetti, M.D., John T. Clymer, M.D., and Neopito L. Robles, M.D. for review and return to the committee.

The report of the Lawrence-Leiter and Company management consultants group was reviewed. This report, in an edited form, has been presented to the Board of Directors and will be considered at the March 27 meeting. It was suggested that the committee recommend to the Board that the matter be referred back to the Executive Committee for appropriate detailed analysis and recommendation to implement the various sections. Mr. Robinson was to summarize the various recommendations and bring them along with his comments to the next Executive Committee meeting.

A funding request for the 1982 Rural Health Conference in conjunction with the Yavapai County Medical Society was received in February and referred to the Health Manpower Committee for recommendation. That committee
advised they did not have the $
requested in their budget, nor did
have enough input in the develop
of the conference, or enough know
about the conference to ma
recommendation. It was moved
carried to approve a $1,500 expen
for the Rural Health Conference to
from the Executive Commit
contingency budget.

At the request of the Maricopa C
Medical Society the Exec
Committee took the following acti
was moved and carried to recom
Marvin R. Goldstein, M.D. as a non
for a future opening on the Boa
Medical Examiners.

## BOARD OF DIRECTORS

The Board of Directors met on M
27, 1982. The following items
discussed and motions made.

**Reports**

Doug Cerf presented a report o
Board of Medical Examiners
vestigative procedure for compl
and reviewed the Statistical Ac
Report for 1980 through 1981.

The ArMA Auxiliary presented
report and asked for suggestion
projects they should undertake.
Basic Skills Program developed b
Auxiliary was directed to
Professional Committee for review
recommendation. It was moved
carried that the Arizona Me
Association endorse the he
education supplement to the
Skills Program and encourage its
throughout the Arizona School Sys

Dr. Meredith reported on ArM
solicitation and the importance
Board members supporting the gr
He also reported on a meeting
legislators on the two important
Quadruplicate Prescription Req
ment and Clinical Pharmacist Pr
tioner.

It was reported by the Aw
Committee that William G. Payne,
has been designated as the
recipient of the A.H. Robins Comm
Service Award.

**Articles of Incorporation and By**
**Committee**

A request from Samuel Pallin, M.D.
a resolution regarding radial kerato
be submitted to the House of Deleg
was reviewed. Following a len
discussion and review of a letter d
3/22/82 from ArMA's counsel it
moved and carried to refer
resolution through the Execu

nittee to the Arizona Ophthalgical Society for an update on their on, and report back to the Board, refer the matter to AMA's Council ientific Affairs for their opinion on keratotomy.

Arizona Chapter of the American ge of Surgeons has withdrawn application for representation in 's House of Delegates in a letter 3/4/82. Received for information the Resolution A-4-82—Specialty ty Representation in ArMA's of Delegates, letter dated 2/9/82 the American College of cians and a letter dated 2/4/82 the Arizona Society of Internal ine.

**l of Directors**

as moved and carried that the gement consultant report be ed back to the Executive Com- to be summarized and the results ght back to the Board.

1983 House of Delegates meeting een confirmed for 5/20 to 5/21 at oubletree Inn in Tucson.

**utive Committee**

s moved and carried to accept and the minutes of the Executive mittee meetings held January 22, and February 19, 1982.

bership classification changes approved from the following ty medical societies: Maricopa, Cochise, Navajo, and Yavapai.

**ce Committee**

s moved and carried that ArMA not sor the Western Physicians asing Association.

as moved and carried that charge ade for the use of the ArMA building ose charging an admission or tration fee; the charge to be based e and space, that is, a fixed dollar nt per room for up to four hours; specific dollar amount to be mined by the Executive Director. A time of four months is to be allowed at those groups currently holding vations will have an opportunity to other plans, should they so chose.

as moved and carried to approve udget for 1983.

1981 audit by Henry and Horne received as was the Financial ment for the period ending 2/23/82.

**rnmental Services Committee**

sting was received of doctors of cine serving on committees of the na Health Care Cost Containment em.

gressional responses to our ion paper on health planning was ved.

**th Manpower Committee**

Linkner's report on the Arizona sing Manpower Project was ived.

was moved and carried that the Health Manpower Committee develop methodology to assess the state's medical manpower based on demographics, population ratios, and specialty mixes utilizing current ArMA staff.

**Legislative Committee**

It was moved and carried that the Association commit time and money within the Public Relations budget to a program of public education in child passenger restraint systems. It was further recommended that the Arizona Hospital Association and the ArMA Auxiliary be asked to participate in such a program.

Kevin Walker reported on the status of bills currently in the legislature.

**Maternal and Child Health Care Committee**

It was moved and carried that the Department of Health Services Develop a data system for improved perinatal morbidity and mortality review.

It was moved and carried to adopt the position paper on lay midwifery submitted by the Maternal and Child Health Care Committee. *(A copy may be obtained from the ArMA office.)*

**Medical Education Committee**

It was moved and carried that Resolution A-3-82, Elimination of duplication of continuing medical education requirements, be introduced in the House of Delegates.

**Nominating Committee**

The Committee's report from their meeting of 2/20/82 was received.

**Underwriting Review Committee**

It was moved and carried to approve the new guidelines for the Underwriting Review Subcommittee.

**Professional Committee**

It was moved and carried that the resolution on sodium labeling be introduced to the House of Delegates in May. *(A copy of this resolution can be obtained from the ArMA office.)*

It was moved and carried that resolutions prohibiting sale and serving of salted snacks in schools, prohibiting sale and serving of carbonated beverages in schools, and regulating use of food stamps not be introduced in the House of Delegates.

It was moved and carried that the recommendations of the Professional Committee concerning game physicians be referred to the Executive Committee for further investigation.

It was moved and carried to refer recommendations of the Professional Committee concerning dyslexia treatment to the Executive Committee for review of legal implications.

It was moved and carried to recommend no change in the language concerning use of amphetamines for treatment of obesity, as contained in the proposed revised Medical Practice Act.

### SCIENTIFIC ASSEMBLY COMMITTEE

The Scientific Assembly Committee met on April 3, 1982. The following items were discussed and motions made.

The committee reviewed a statistical report of the first four "Current Perspectives" programs. They were attended by 222 people.

It was moved and carried to charge a registration fee of $20 for non-ArMA members attending the programs, with the exception or the situation where another organization is co-sponsoring and funding a program, in which case members of the co-sponsoring organization who are not members of ArMA would be admitted free.

It was moved and carried to conduct a program, prior to the House of Delegates, at 1:00 P.M. on Thursday, May 20, 1982, in the Canyon Room of the Convention Center at the Ramada Safari Resort in Scottsdale, with Dr. Holtzman chairing this program. The subject of the program will be "infectious disease."

It was moved and carried to follow the same general program format for the coming year. It was moved and carried to conduct seven half-day programs as follows: October 20, 1982; November 24, 1982; December 22, 1982; January 19, 1983; February 16, 1983; March 16, 1983; May 19, 1983 (in Tucson in conjunction with the House of Delegates' meeting).

It was moved and carried to have Dr. Holtzman appoint a subcommittee to select the topics and chairmen for the 1982-83 program schedule, with Jerome H. Targovnik, M.D. to chair such subcommittee. Some of the suggested topics were: pain, biofeedback, dealing with pain, obesity, athletic injuries and coronary artery disease.

It was moved and carried to appoint a subcommittee to determine ways of developing pharmaceutical company financial support.

It was moved and carried to table the subject of video taping the programs.

The Board of Directors has confirmed the appointment of Dennis W. Berry, M.D. to the committee.

Mrs. Janet Hoffmann reviewed in detail the 1982 Auxiliary program for the committee. She also indicated that the Auxiliary is considering the possibility of holding their meetings at a different time than ArMA's House of Delegates.

# *Future Medical Meetings*

The following institutions and organizations have been accredited for their continuing medical education programs by the Liaison Committee on Continuing Medical Education

Arizona Chapter, American Cancer Society
Arizona Heart Institute
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St Joseph's Hospital & Medical Center, Phoenix
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program, (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

## MAY

**Clinical Seminar Series "Trauma"**
May 15, 1982. Phoenix. Sponsor: University of Arizona College of Medicine. Contact: Office of Continuing Medical Education and Outreach, U of A Health Sciences Center, Tucson, Arizona 85724. Approved for hour per hour Category 1 credit.

**Diagnosis and Treatment of Bronchospastic Syndromes**
May 18. Desert Samaritan Hospital, Mesa Arizona. Sponsor and Contact: Desert Samaritan Hospital & Health Center, CME Office, 1400 S. Dobson Rd., Mesa, Arizona. Approved for hour per hour Category 1 credit.

**Current Perspectives V, Infectious Diseases**
May 20. Ramada Safari Resort, Scottsdale. Sponsor: Arizona Medical Association. Contact: Arizona Medical Association, 810 West Bethany Home Rd., Phoenix, Arizona 85013. Approved for 3½ hours of Category 1 credit.

## JUNE

**Long Term Management of Post-Myocardial Infarction Patients**
June 8. Desert Samaritan Hospital. Sponsor and Contact: Desert Samaritan Hospital & Health Center, CME Office, 1400 South Dobson Road, Mesa, Arizona 85202. Approved for hour per hour Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider Course**
June 10-12. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affilate Amer. Heart Assoc., ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Rd., Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Arthritis: Today's Progress, Tomorrow's Changes**
June 18 and 19. Arizona Biltmore, Phoenix. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, 525 N. 18th St., Phoenix, Arizona 85006. Approved for 12 hours of Category 1 credit.

**Desert Samaritan Hospital—Hawaiian CME Meeting**
June 19-26. Kauai, Hawaii. Sponsor: Desert Samaritan Hospital. Contact: Office of CME, Betty Wood, Desert Samaritan Hospital 1400 S. Dobson Road, Mesa, Arizona 85202. Approved for 20 hours of Category 1 credit.

## JULY

**18th Annual Coconino County Medical Society Summer Medical Seminar**
July 30 and 31. Little America Motor Hotel, Flagstaff, Arizona. Sponsor: Arizona Medical Assoc. & Coconino County Medical Society. Contact: Lana L. Holstein, M.D., P.O. Box 392, Flagstaff, Arizona 86002. Approved for 13 hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider Course**
July 13-15. Arizona Medical Association Office, Phoenix, Arizona. Sponsor: ACLS, AZ Affilate of the Amer. Heart Assoc., ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doctors Hospital, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

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### SUMMER CME CRUISE CONFERENCES ON LEGAL-MEDICAL ISSUES

Ten day Caribbean cruise departs
28, 1982 visiting five picture
islands. Fourteen day Meditera
cruise departs August 21, 1982 vis
Italy, Greece, Egypt, Israel, Tu
Yougoslavia. Seminars led by
tinguished professors. Approved f
CME Cat. 1 credits. Excellent Fly/C
group fares on finest ships.
conferences, scheduled prior
12/13/80, conform to IRS tax de
ibility requirements under 1976
Refor Act. Registration limited. For
brochures contact:

**INTERNATIONAL CONFERENC**
**189 Lodge Avenue**
**Huntington Station, N.Y. 1174**
**PHONE (516) 549-0869**

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**Office Psychiatry for the Primary Provider**
2nd Monday of month, 4811 N. 7th S
Phoenix, AZ. Sponsor: Arizona Health
Contact: T.R. Bittker, M.D., Box
Phoenix, AZ 85010. Approved for Categ
credit.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Ph
Psychiatric Council. Contact: Jame
Campbell, M.D., 5051 N. 34th St., Phoeni
85018. Approved for 2 hours Catego
credit.

**Monthly Meeting of Tucson Radiologis**
Last Tues. of month. Plaza Internati
Tucson, AZ. Sponsor: U of A Medical Ce
Dept. of Radiology. Contact: Irwi
Freundlich, M.D., U of A Health Scie
Center, Dept. of Radiology, Tucson,
85724. Approved for 2 hours Catego
credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix:
Tues.—Phoenix Indian Hospital, 2nd Tu
Maricopa County Hospital, 3rd Tues.—
Samaritan Hospital, 4th Tues.—St. Jose
Hospital. Sponsor: Maricopa Co
Hospital (Phoenix Hospital's Affili
Pediatric Program). Contact: J.
Charlton, M.D., 2601 E. Roosevelt, Pho
AZ 85008. Approved for 1 hour per ses
Category 1 credit.

**Review of Forensic Pathology Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th
Phoenix, AZ. Sponsor: Arizona Societ
Pathologists. Contact: H.H. Karnitsch
M.D., 120 S. 6th Ave., Phoenix, AZ. Appr
for 1 hour per session Category 1 credi

### ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,
Phoenix, AZ 85064. Contact: Ravi Koo
M.D.

**ical Conference**
**diovascular Medicine**
d Tues., 5:15 p.m., second floor sroom

## ARIZONA STATE HOSPITAL

) E. Van Buren, Phoenix, AZ. 85008. tact: Arnold L. Kendall, M.D.

**H. Psychiatric Grand Rounds**
Wed., 1:00-2:00 p.m., J-6 Conf. Rm., tact: Dr. Conger & Staff

**ical-Pathological Conference**
Wed., 1:30-2:30 p.m. General Services g., Conf. Rm.

**ical Grand Rounds**
Ved., 1:00-2:00 p.m., Medical Bldg. Conf.

## ARROW NEUROLOGICAL INSTITUTE

**ical Education**
ow Neurological Institute of St. Joseph's pital and Medical Center, 350 W. Thomas Phoenix, AZ 85013. Sponsor: St Joseph's pital & Medical Center. Contact: John R. en, M.D. Approved for 1 hour Category 1 it.

**rology Teaching Conference**
sdays, 8:30-9:30 a.m., Eighth Floor Conf. m.

**rosurgical Morbidity Conference**
nesdays, 8:15-9:15 a.m., on first and third fifth, Eighth Floor Conference Room.

**ro-ophthalmology Conference**
days, 7:30 a.m. in 8th floor neurology erence room.

**al Injury Conference**
nesdays, 8:15-9:15 a.m., on second and h weeks, in Neuropathology Conf. —a multidisciplinary review of admission neurosurgeons, orthopedists, and bilitation specialists.

**opathology of Gross**
**imens Conference**
sday, 7:30-8:30 a.m. in the Morgue.

**ology-Neurosurgical**
ys, 8-9 a.m., First Floor Conference Rm.

**opathology or**
**oradiology Conferences**
ay, 9 a.m., Neuropathology in ropathology Conference Rm., oradiology in First Floor Conference

**orehabilitation Conference**
days, noon, 8th Floor Conference Rm.

**osurgical Journal Club**
rdays, 9-11 a.m. in Eighth Floor erence Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

1 Thunderbird Boulevard, Sun City, AZ 2. Contact: Martha R. Newby, ED.D., ctor of Education.

**cal Department Continuing Medical ation**
Vednesday, 12 Noon, C119. May, July, & Nov.

**or Board**
Thursday of the month, 12 Noon, Educ. er Classroom I & II, May, July, Sept, &

**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: T. F. Reid, Jr., M.D.

**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for Category 1 credit.

**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West End.

**Clinical Conference — Dept. of Medicine**
Weekly, Thurs., 12:30-1:30 p.m. Buffet Lunch, Grande Rm.

**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.

**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2

## DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.

**Physicians Continuing Education Program**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Sept. and December) Contact: R. Grossman, M.D

**Surgical Department Meeting**
3rd Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.

**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.

**Clinical Conferences**
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.

**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf. Rm.

**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf. Rm.

## GOOD SAMARITAN HOSPITAL

1033 East McDowell Rd., Phoenix, AZ Contact: W. J. Howard, M.D. Approved for category 1 credit.

**Anatomical Path. & Cytology**
Weekly, Mondays 4:00-5:00 p.m., S-4 Conf Rm.

**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., West Rm

**Monday Noon Conference**
Weekly, Monday, 12:00-1:00 p.m. R-2 Conf. Rm.

**Mortality/Morbidity, Surgery Comm.**
2nd Monday, 11:30-2:00 p.m., West Rm.

**Obstetrical Section Conference**
1st Monday, 12:30-1:30 p.m., West Rm.

**Pulmonary Disease Grand Rounds**
Weekly, Monday, 12:00-1:00 p.m., D-5 North

**Family Practice Conference**
Weekly, Tuesday, 12:00-1:00 p.m., Fam. Practice Conf. Rm.

**Pediatric Grand Rounds**
3rd. Tuesday, 7:30-8:30 a.m., Contact: Paul Bergeson, M.D.

**Phoenix Plastic Surgery Residency Conference**
Weekly, Tuesday, 5 p.m.-6 p.m., Education Building, Contact: Robert McGregor, M.D.

**PM & R Noon Inservice**
2nd & 4th Tuesday, 12 Noon, R-2 Conference Rm.

**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., West Rm, Contact: John A. Bruner, M.D.

**Combined Cardiovascular & Family Practice Conf.**
Ist, 2nd, & 4th Wed., 12:00-1:00 p.m., D-5 North.

**Learning Disabilities**
Weekly, Wednesday, 10:30-12:30 p.m., R-2 Conf. Rm.

**OBGYN Dept. Review & Statistics**
Weekly, Wednesday, 12:30-3:00 p.m., OBGYN Conf. Rm.

**Gynecological Pathology**
Weekly, Thursday, 1:00-2:00 p.m., S-4 Conf. Rm.

**GI Radiology Conference**
1st Thursday, 12:00-1:00 p.m., F151, Radiology Conf. Rm.

**Phoenix Ultrasound Soc. Meeting.**
2nd Thursday, Medical Education Building, Contact: Dr. Ben Ora

**Neurology Grand Rounds**
Weekly, Thursday, 9:00-10:00 a.m., D-5 North.

**Surgical Grand Rounds**
Weekly, Thursday, 7:00-8:30 a.m., Education Building, Contact: Dr. Gilsdorf

**Tumor Treatment Planning Conf.**
2nd & 4th Thursdays, 12:00-1:00 p.m., F151 Radiology

**Joint Tumor GYN Conference**
2nd Friday, 12:30-1:30 p.m., West Rm.

**Medical Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., West Rm.

**Neuropathy Conference**
Last Friday, 1:15-2:15 p.m., S-4 Morgue.

**Psychiatry Grand Rounds**
Weekly, Friday, 11:30-1:00 p.m., East Rm.

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.

**Medical Conference**
Weekly, Monday, 12:30 p.m., Contact: Chief Medical Resident.

**Surgical Connference**
Weekly, Mondays, Contact: R. Fischer, M.D.

**Medical Conference**
Weekly, Monday, 12:30 p.m.

**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.m., Contact: J Wurzel, M.D.

**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chief Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.

**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.

**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.

**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz Room

**Obstetrical Problem Conference**
Weekly, Tuesday, 7:30 a.m., Yavapai Rm.

**Orthopedic Conference**
Weekly, Tuesday, 7:30 a.m., Santa Cruz Rm.

**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.

**Urology Discharge Planning Conference**
Weekly, Tuesday, 11:30 a.m., Station 42

**Hand Surgery Conference**
Weekly, Wednesday,7:30 a.m., Santa Cruz Rm.

**Neurosurgery Discharge Planning**
Weekly, Wed., 1:30 p.m., Station 42.

**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.

**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental Health Annex, Rm. 1346.

**Surgery Conference**
Weekly, Wed., 7-8 a.m., Surgical Dept.

**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.

**Cardiology Conference**
Weekly, Thurs., 2 p.m., Santa Cruz Rm.

**OB/GYN Resident Conference**
Weekly,Thurs., 12 p.m., Yavapai Rm.

**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Rm.

**OB/GYN Surgical Pathology Conf.**
Weekly, Friday, 7:30 a.m., Yavapai Rm.

**Orthopedic X-Ray Conference**
Weekly, Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: E. John Wickman, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015. Contact: J. Burr Ross, M.D., Approved for Category 1 credit.

**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.

**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for category 1 credit.

**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.

**Clinical Staff Teaching Conference, Rm. A.**
Weekly, Wednesday, 7:30-8:30 a.m.

**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact: N. Wendell Tood, M.D.

**Family Practice/Emergency Room Teaching Conference**
Thursday, Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.

**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.

**Clinical Conferences**
Weekly Tuesday, 12:30 p.m., Kiva Conference Rm.

**Psychiatric Clinical Conference**
2nd Friday, 11:30 a.m., B-Wing Conf. Rm., Contact: Medical Staff Secretary

**Tumor Board Conference**
Weekly Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.

**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge

**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge

**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge

**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge

**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge

**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge

**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge

**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge

**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge

**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Loun

**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lour

**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lour

**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85
Contact: Joseph C. White, M.D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st F Conf. Rm.

**Genetics Conference**
Weekly, Monday, 12:30 p.m., Pedia Department.

**Pediatric Rounds**
Weekly, Monday, Wed. & Friday, 10:30 a Pediatric Department.

**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Charlton, M.D.

**ECG Conference**
Weekly, Tuesday, 12:30 p.m., Pedia Department.

**Medical Grand Rounds**
Weekly, Wednesday, 8 a.m., 1st Floor C Room.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 8 a.m., PIMC

**Visiting Professor Informal Presentation**
Weekly, Thursday, 9:30 a.m., 1st floor C Rm.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 12:30 p.m., PIMC

**Nephrology Conference**
Weekly, Fridays, 12:30 p.m., Pedia Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Cont Eric G. Ramsay, M.D. Approved for Categ 1 credit.

**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact: Moteforte.

**Ophthalmology Morbidity/Mortality Con**
4th Tuesday, 12:15 p.m., Contact: Sowards.

**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.

**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contac Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ, Con Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly, Monday, 12:15 p.m., Auditorium

**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditor

**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium

**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium

**diovascular-Thoracic Record Review**
Wednesday, 12:15 p.m., Auditorium
**nonary Case Conferences**
Thursday, 7:30 a.m., Phillips Auditorium
**chiatry Conference**
Thursday, 7 a.m., Auditorium
**nbined Medical General**
**ctice Conference**
Friday, 12:15 p.m., Auditorium
**icology Grand Rounds**
Friday, 7:30 a.m., Auditorium
**nthalmology Conference**
Saturday, 8:30 a.m., Auditorium

## ST. MARY'S HOSPITAL & HEALTH CENTER

1 W. St. Mary's Road, Tucson, AZ 85703.
ntact: see below.
**nthly Specialty Conference —**
**t. of Surgery**
Monday, 7:30 a.m., Century Rm. A.,
ntact: Med. Staff Office.
**nd Rounds: Medical Surgical, Family**
**ctice, Pathology, Radiology**
ekly, Thursday
**ergency Medicine Lectures**
ekly, Thursday, 8 a.m., Century Rm. A.
**ntal Health Update**
Friday, 11:30-1:00 p.m., Century Rm. A.
**diology Conference**
ekly. Friday, 8:00-9:00 a.m., Century Rm.,
ntact: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

E. Grant Road, Tucson, AZ 85716.
tact: Eric G. Ramsay, M.D. Approved for
egory 1 credit.
**diology Conference**
kly, Monday, except last, 12 Noon,
tact: M. Maximov, M.D.
**matology Conference**
Monday, 5:00 p.m., Contact: R. Miller,

**ocrinology Conference**
Monday, 12 p.m., Contact M. Parker,

**natal Conference**
Monday, 7:30 p.m., Contact: J. Lohman,

**gical Dept. Conference**
Monday, 12 Noon: Contact: C. Peter
we, Jr., M.D.
**st Conference**
Tuesday, 12 noon, Contact: William
n, M.D.
**natology Conference**
Tuesday, 12 Noon, Contact: M. Boxer,

**ctious Disease Conference**
Tuesday, 12 noon, Contact: B. Friedman,

**hrology Conference**
Tuesday, 12 noon, Contact: Dr. Seltzer.
**nopedic Conference**
Tuesday, 7:30 p.m., Contact: Jay Katz,

**iatric Grand Rounds**
& 3rd Tuesday, 12:30 p.m., Contact: Dr.
tner.
**rophysiology Conference**
Tuesday, 5 p.m., Contact: Robert Foote,

**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.
**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, July, & Oct. Contact: C. Mangelsdorf, M.D.
**Medical Conference**
Weekly, Wednesday, 8:00 a.m., Contact: M. Fuchs, M.D.
**Neurology-Neurosurgery Conference**
Weekly, Wednesday, 12 noon, Contact: H. W. Buschsbaum, M.D.
**Dermatology Conference**
1st Thursday, 12 noon, Contact: R. Friedman, M.D.
**Neuroradiology Conference**
Weekly, Thursday, 5:00 p.m., Contact: N. Komar, M.D.
**Tumor Conference**
Weekly, Thursday, 12 noon, Contact: Cancer Committee.
**Pulmonary/Infectious Disease Case Conference**
2nd Thursday, 7:30 a.m., Contact: William Nevin, M.D.
**G—I Conference**
Weekly, Friday, 12 noon, Contact: George Kerrihard, M.D.
**Interhospital Nuclear Medicine Conference**
Weekly, Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.
**OB/GYN Conference**
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.
**OB/GYN Pathology Conference**
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

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7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.
**GI X-Ray Clinical Correlation Conf.**
1st & 3rd Monday, 1 p.m., Rm. C435, Contact: Drs. Sanowski, & Nielsen.
**Medical/Surgical GI Conference**
1st & 3rd Monday, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.
**GI Pathology Conf.**
2nd & 4th Monday, 1 p.m., Path Conf. Rm, Contact: Dr. Sanowski..
**Orthopedic Surgery Conference**
2nd Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.
**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 2128, Contact: Dr. Mertz & Dr. Lanard.
**Vascular Conference**
2nd Monday, 3 p.m., Rm. 3134, Contact: Dr. Clintora
**GI Grand Rounds**
Weekly, Tuesday, 1 p.m., Contact: Drs. Sanowski, Kozarek, after GI Grand Rounds Rm T-5.
**Housestaff Pulmonary Disease Teaching Conf.**
Weekly, Wed., 3-4 p.m., Rm. 4115, Contact: Dr. Rohwedder, Ext. 388.
**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habibzedeh
**Medical Surgical Chest Conference**
1st & 3rd Thursday, Contact: Dr. Rohwedder or Dr. Gill.
**GI Consultant Rounds**
1st Thursday, 1:30 p.m., Rm. T-5.
**Medical Service Grand Rounds**
Weekly, Friday, 11 a.m., Rm. T-5, Contact: Dr. Zeller
**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

## PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.
**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.
**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

## TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.
**Medical Surgical Chest Conference**
Weekly, Tuesday, 2 p.m., Contact: Dr. Young
**Medical Grand Rounds**
Weekly, Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.
**Surgical Grand Rounds**
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam
**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.
**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.
**Vascular Radiology, Interesting Case Conf.**
Weekly, Thursday, 12:00 noon.
**Neurology Grand Rounds**
Weekly, Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for category 1 credit.
**Radiology Conference**
1st Tuesday, 7:00 a.m.
**Operation Outreach**
2nd Tuesday, 6:30 p.m.
**Pathology Conference**
4th Tuesday, 7:00 a.m.
**Operation Outreach**
2nd Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

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**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.

**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly, Thursday, 4-5 p.m., Room 5403.

**Anesthesiology Case Discussion**
Weekly, Wed., 7:00 a.m., AHSC, Dining Rm. C&D.

**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.

**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center.

**Cardiac Catheterization Conference**
Weekly, Friday, 4:00 p.m., Contact: Dr. Temkin.

**Cardiology Research Conference**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn.

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505. Contact: Jerry Goldstone, M.D., Dept. of Surgery.

**Dermatology Conference**
4th Monday, 5:15 p.m., AHSC, Contact: Dr. R. Friedman.

**Dermatology Rounds**
Weekly, Wed., 11:30 a.m., Contact: Dr. Lynch.

**Endocrinology Seminar**
Weekly, Thursday, 12-1 p.m., Contact: Dr. Johnson.

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contact: Dr. Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus.

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter.

**Head & Neck Tumor Management Conference**
Weekly, Wed., 4:00 p.m., Contact: Dr. Manning.

**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.

**Medical Grand Rounds**
Weekly, Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.

**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contacts: Drs. Hughes & Alcorn.

**Neuromuscular Disease Conference**
Weekly, Friday, 11:30 a.m., Contact: Dr. Stern.

**Neuropathology Case Review**
Weekly, Friday, 8:30 a.m., UAHSC, Dr. P. Johnson.

**Neuroradiology Conference**
Weekly, Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson.

**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.

**Neurosciences Seminar**
Weekly, Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford.

**Nuclear Medicine**
Weekly, Thursday, 7:30 a.m., AHSC Radiology Conference Rm.

**OB/GYN Lectures**
Weekly, Friday, 1 p.m., AHSC, Contat: Dr. C.D.Christian.

**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler.

**Ophthalmology Retina Fluoro. Conference**
Weekly, Thursday, 5 p.m., AHSC, Contact: Dr. H. Cross.

**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.

**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.

**Pathology Conference**
Weekly, Monday, 12 noon, AHSC, Contact: Dr. C.D. Christian.

**Pathology Seminar**
Weekly, Friday, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley.

**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.

**Pediatric Grand Rounds**
2nd, 4th & 5th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.

**Pediatric Problem Patient Conference**
Weekly, Wed., 8:00 a.m., Contact Dr. Walson.

**Pediatric Research Forum**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. James Jones

**Pediatric Specialty Conference**
Weekly, Friday, 8:00 a.m., Contact: Dr. Philip Walson.

**Psychiatric Grand Rounds**
Weekly, Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium.

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital.

**Pulmonary Rounds**
Weekly, Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.

**Chest Radiology**
Weekly, Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly, Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly, Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly, Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich.

**Radiology-Rheumatology Conference**
Weekly, Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.

**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact: Dr. Nagle.

**Residents Noon Conference**
Weekly ,Tuesday & Thursday, 12:00 noon, AHSC, Contact: Dr. A. Greensher.

**Resident's Conference**
Weekly, Wed., 5-6 p.m., Diag. Radiology Conf. Rm.

**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.

**Surgical Morbidity & Mortality Conference**
Weekly, Wed., 8:00 a.m., Contact: Dr. Wangensteen.

**Joint Thyroid Conference**
1st & 3rd Tuesdays., 1-2:00 p.m., AHSC, 6505, Contact: S. C. Werner, M.D.

**Trauma Conference**
Thursday, 4:00-5:00 p.m.. AHSC, Rm. 5

**Toxicology Conference**
Weekly, Tuesday, 8:00 a.m., Contact: Keith Likes.

**Tucson Ultrasonography Group**
Weekly, Wed., 4:30 p.m., AHSC, Contact I. Freundlich.

**General Urology Conference**
Weekly, Tue. & Thurs., 12:00 noon, AHS VA Hospital Contact: Dr. G.W. Drach.

**Vascular Surgery Conference**
Weekly, Tuesday, 4-6 p.m., AHSC, Con Dr. J. Goldstone.

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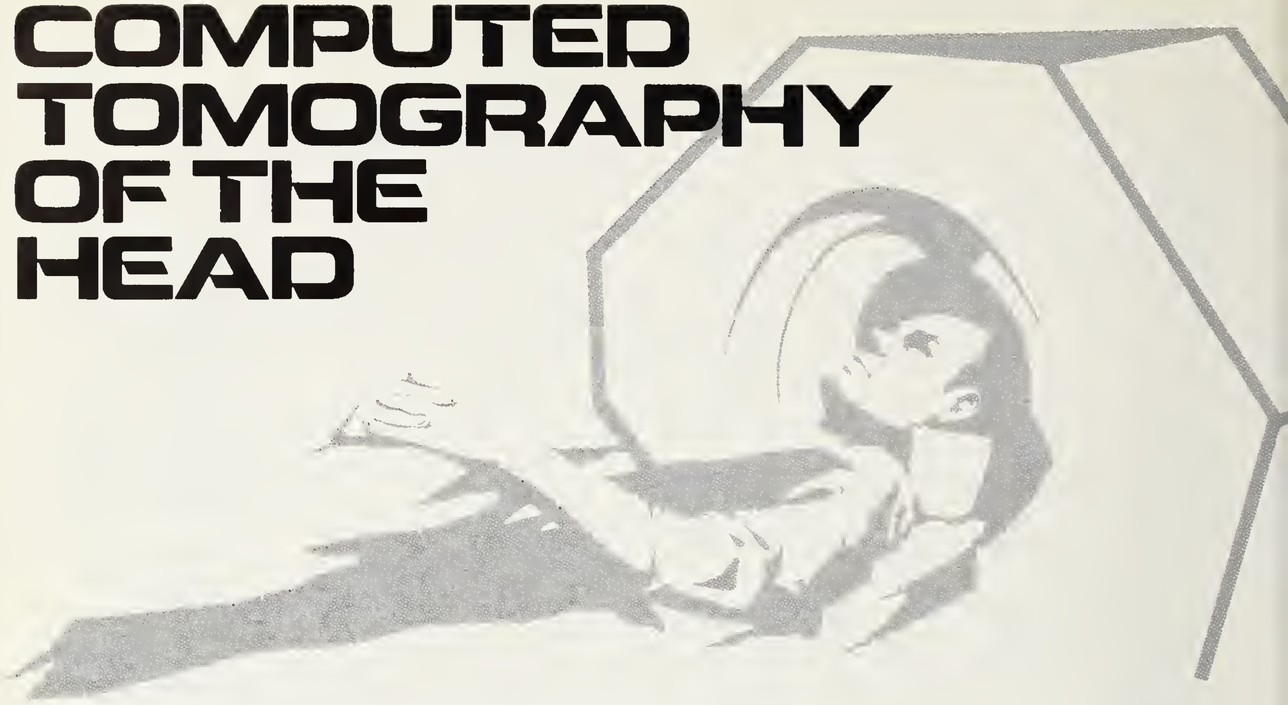

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JOURNAL OF ARIZONA MEDICAL ASSOCIATION

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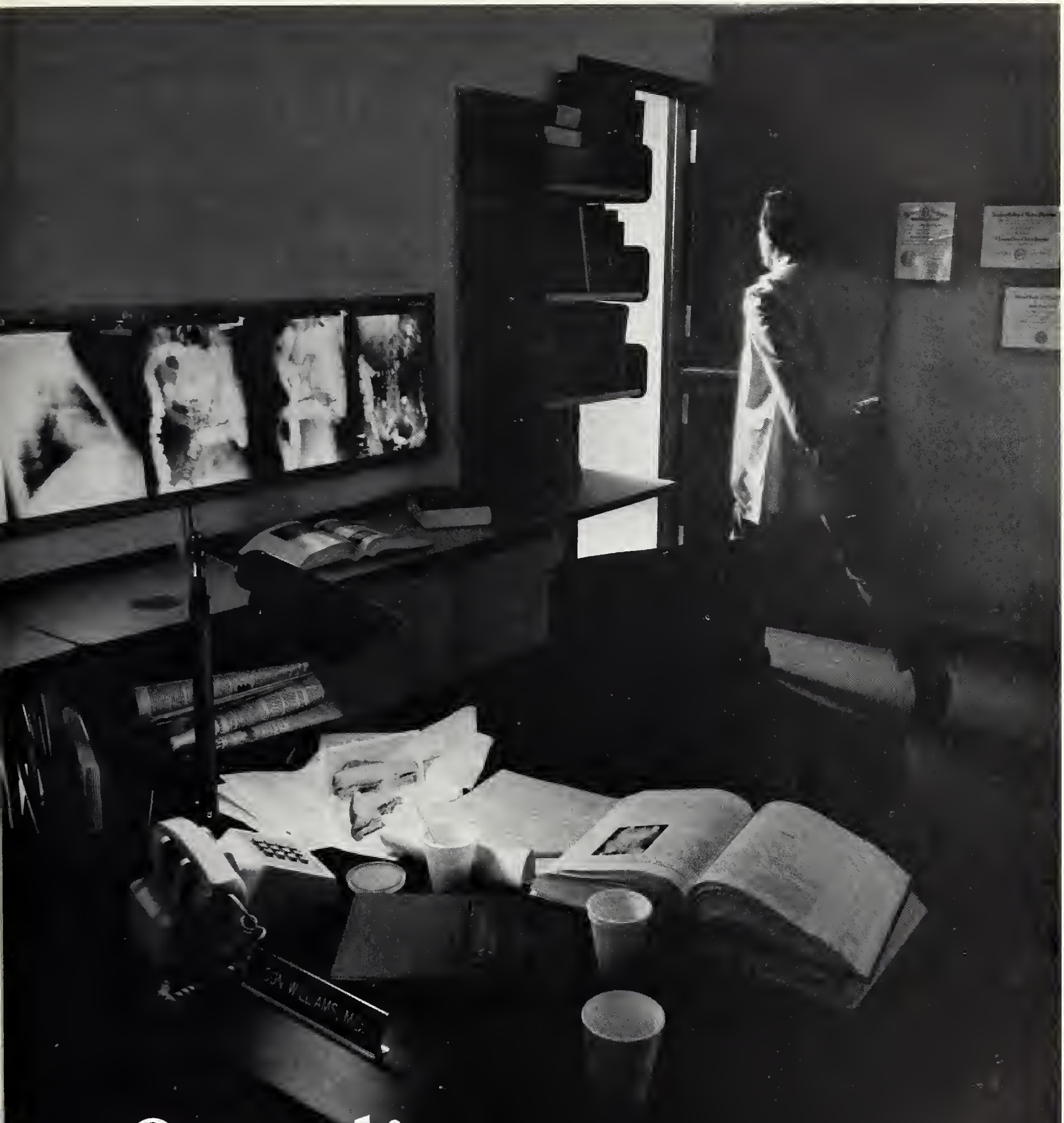

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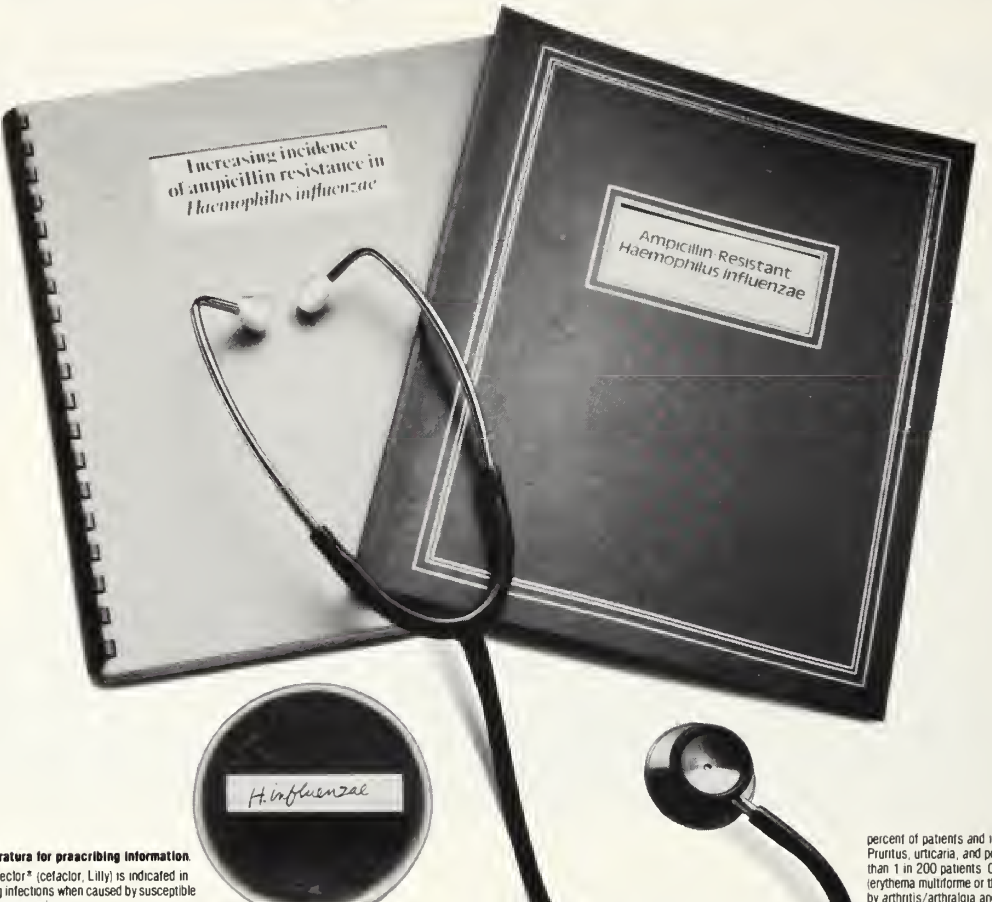
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**Contraindication:** Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

**Precautions:** If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

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*Usage in Pregnancy*—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus

*Usage in Infancy*—Safety of this product for use in infants less than one month of age has not been established

**Adverse Reactions:** Adverse effects considered related to cefaclor therapy are uncommon and are listed below

*Gastrointestinal* symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor

*Hypersensitivity* reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor) Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281R

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S pneumoniae* or *H influenzae*[8]

*Note* Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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Cardiology

# Cardiovascular Effects of Tricyclic Antidepressants

Ronald W. Hanson, Ph.D., M.D.
Kenneth B. Desser, M.D.
Alberto Benchimol, M.D.

Editor:
Kenneth B. Desser, M.D.

The purpose of this paper is to review the cardiovascular effects of tricyclic antidepressants. Clinical features of a case of tricyclic medication overdose which we encountered will serve as an example followed by a review of the pertinent literature.

## Case Report

A 37-year-old man was brought to the Emergency Room with confusion and disorientation. He was found at home with empty bottles of Elavil 75 mg, Nalfon, Percocet and Nembutal. His past medical history was significant for an overdose of Seconal and a subtotal gastrectomy in 1975.

Examination revealed an alert, oriented cooperative male with poor concentration ability. The patient was afebrile with a respiratory rate of 18/min and pulse of 88/min. The blood pressure was 140/80 without orthostatic change. The pupils were dilated but reactive to light. There was no jugular venous distention or carotid bruits. The lungs were clear to auscultation. Cardiac examination revealed an apical impulse at the fifth intercostal space at the midclavicular line. S1 and S2 were normal with physiological splitting of S2. A loud S4 was present, but an S3 was absent. There were no murmurs. Neurological examination demonstra reduced coordination with past pointing and p alternating hand movements.

The initial electrocardiogram disclosed first degree V block with a PR interval of 0.21 sec, complete ri bundle branch block with a QRS interval of 0.13 sec, indeterminant QRS axis and non-specific ST-T chang (Figure 1). An electrocardiogram recorded two ye earlier was normal. Chest x-rays were normal, as w the electrolytes. Arterial blood gases on 2 L/min oxygen were: $PO_2 = 81$, $Ph = 7.33$, $PCO_2 = 43$. The blo glucose was 241 mg/dl, BUN 25 mg/dl and hemato 35.8 with macrocytic indices. The patient was place the Intensive Care Unit and treated with gastric lava activated charcoal and magnesium citrate. He did develop hypotension or arrhythmias.

Comprehensive blood and urine drug scre revealed a combined blood amitriptyline a nortriptyline level of 937 ng/ml. The usual therape levels are 125-250 ng/ml and toxicity occurs at lev greater than 500 ng/ml. In addition, he was found have an elevated blood acetaminophen level of mg/dl (therapeutic level, 1.0 to 2.5).

A repeat electrocardiogram taken ten hours af admission revealed a PR interval of 0.18 sec, a Q interval of 0.10 sec and non-specific ST-T chang (Figure 2). Twenty-four hours after admission electrocardiogram had reverted to normal.

---

From: The Institute for Cardiovascular Disease, Good Samaritan Medical Center, 1111 East McDowell Road, Phoenix, Arizona. Reprint requests to Alberto Benchimol, M.D., Good Samaritan Medical Center, P. O. Box 2989, Phoenix, Arizona 85062.

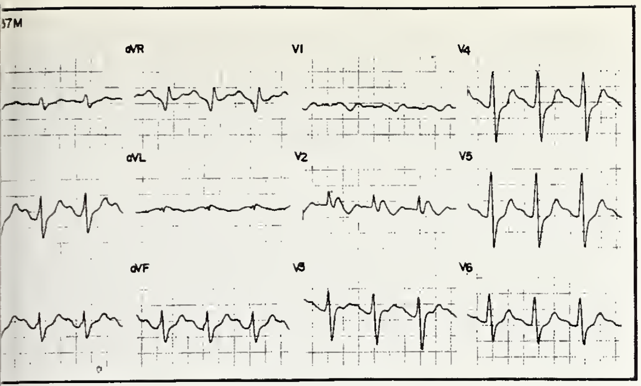

Figure 1
trocardiogram shows first degree A-V block, complete t bundle branch block and nonspecific ST-T changes.

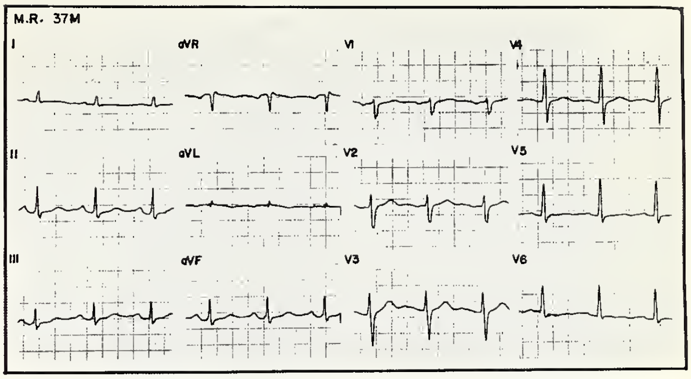

Figure 2
Electrocardiogram shows normal P-R interval and no bundle branch block.

## cussion

### diovascular Effects of Normal Level of Tricyclic idepressants

here have been several studies of the cardiovascular ects of tricyclic compound overdoses[1-6] but few spective studies of the influence of normal rapeutic blood levels.[7-10] One such study[11] examined electrocardiographic changes in 66 patients without rt disease who received either tricyclic or tetracyclic depressants. Each patient had an electrocardiogram screening laboratory work prior to initiation of atment. Follow-up electrocardiograms were ained at ten days and twenty days of therapy and at t four weeks after the drugs were discontinued. A ller group of 17 patients could not have their therapy pped, and therefore regression of changes could not documented.

he investigators found that after twenty days, there no change in the laboratory values for blood urea, atinine, sodium, cholesterol, glucose or potassium. re were, however, consistent changes in the ctrocardiograms which were independent of the e of antidepressant utilized. There was a significant ease in heart rate which averaged less than ten cent. The PR interval increased in duration up to ten cent yet only two patients developed first degree A-V ck. The T wave also decreased in amplitude. Other nges included minor prolongation of QRS and QTC rvals. Four weeks after therapy was withdrawn all parameters had returned to normal except in one ent who continued to maintain a first degree A-V ck.

the second group of patients which could not have depressants withdrawn, reevaluation was made 13 nths after therapy was begun. The PR interval, QRS ation and QTC interval had returned to their eline values. Only the heart rate showed a modest ease, and the T wave morphology returned to near treatment levels. One patient developed first degree block on therapy which continued for 13 months. In patients, orthostatic blood pressure was monitored r to and during initiation of therapy. There was no significant blood pressure drop recorded after therapy was started.

### Physiological Effect of Tricyclic Overdose

The frequency of tricyclic overdose has been increasing and recent articles have reviewed the recognition and management of such patients.[6] One such paper presented 35 patients with documented tricyclic overdose who had no previous history of cardiac disease.[12] In each patient, the plasma concentration of the parent compound amitriptyline and imipramine, as well as the active metabolites were measured. Electrocardiograms were obtained daily and patients with ventricular extrasystoles were monitored with twenty-four hour Holter recordings. All 35 subjects were given supportive therapy consisting of intravenous fluids, sympathomimetic amines, gastric lavage, activated charcoal, magnesium citrate and respiratory assistance where needed. The entire study group recovered uneventfully.

Table 1
Distribution of Physical Findings in Subjects with Tricyclic Antidepressant Overdose

| | Number | Percent |
|---|---|---|
| Tachycardia | 25 | 71 |
| Hypotension | 18 | 51 |
| Atrial gallop (S4) | 5 | 14 |
| Ventricular gallop (S3) | 4 | 11 |
| Summation gallop (S3 + S4) | 6 | 17 |
| Ejection systolic murmur | 10 | 28 |

The average initial plasma level of amitriptyline plus active metabolite was 430 ± 74 ng/ml (standard deviation) and the levels of imipramine plus active metabolites was 665 ± 137 ng/ml. The most consistent physical finding was tachycardia (heart rate $> 110$) followed by hypotension (systolic blood pressure $< 80$ mm/Hg). Other physical findings included: atrial gallop (S4), ventricular gallop (S3), summation gallop (S3 and S4), and systolic ejection murmur, (Table 1). The physical findings were consistent for both tricyclic

### Table 2
### Distribution of Electrocardiographic Findings in Subjects with Tricyclic Antidepressant Overdose

| | Number | Percent |
|---|---|---|
| Sinus Tachycardia | 25 | 71 |
| Supraventricular tachycardia | 2 | 6 |
| Premature ventricular beats | 12 | 34 |
| Prolongation of PR interval | 4 | 11 |
| Prolongation of QRS complex | 10 | 29 |
| Right bundle branch block | 5 | |
| Intraventricular conduction delay | 5 | |
| Abnormal ST segment | 10 | 28 |
| Abnormal T wave | 10 | 28 |
| Prolongation of QT interval | 30 | 86 |
| Normal electrocardiogram | 7 | 20 |

antidepressants except that hypotension was more common with amitriptyline (65%) as opposed to imipramine (16%).

Five patients were hemodynamically suppressed to the point where invasive monitoring with a Swan-Ganz catheter was required. Initial measurements were: heart rate, 121 ± 8; pulmonary capillary wedge pressure, 6 ± mm/Hg; systemic systolic blood pressure 65 ± 8 mm/Hg, and cardiac output, 2.8 ± 1.2 L/min. Treatment with intravenous fluids corrected the wedge pressure (12 ± 43 mm/Hg) and increased the cardiac output (4.8 ± 0.5 L/min). The systemic systolic blood pressure did not return to normal levels with fluids in many subjects, requiring additional treatment with sympathomimetic amines. The heart rate continued to remain elevated (118 ± 10) after correction of all hemodynamic derangements.

Electrocardiographic manifestations of tricyclic overdose are summarized in Table 2. As in the case of normal blood levels, the heart rate increased, yet only a small percentage (6%) developed supraventricular tachyarrhythmias. Frequent ventricular premature beats were noted in a minority of patients but these were adequately controlled by lidocaine. Eleven percent of patients developed first degree A-V block but higher degrees of block were not observed. Long-term Holter monitoring did not reveal any persisting ventricular ectopic beats of consequence. The electrocardiographic changes had reverted to near normal by the end of 72 hours. There was a good correlation between the QRS duration and imipramine levels in the study. All patients had a complete recovery.

The use and abuse of tricyclic antidepressants has been increasing over the past decade. As demonstrated by several studies, therapeutic blood levels can induce potentially serious cardiac consequences. The pharmacologic effects of tricyclic antidepressants include an anticholinergic state, direct myocardial depression and sympathomimetic activity which is related to the ability of such drugs to block reentry of adrenergic amines into storage sites. Although all of the tricyclic antidepressants can exert the same adv
cardiac effects, it appears that amitriptyline is associa
with the greatest myocardial depressive effects
should be used cautiously in any patient with kno
cardiac disease.

We recommend that all patients have
electrocardiogram and be assessed for orthost
hypotension prior to initiation of therapy. If ther
evidence of atrioventricular block, intraventric
conduction delay, (bundle branch block) or ventric
arrhythmias, the patient should be hospitalized
carefully monitored. Amitriptyline should not be u
for patients with evidence of electrocardiograp
abnormalities or congestive heart failure. Once ther
is started, serial electrocardiograms are warranted
the development of atrioventricular block sho
interdict therapy. It should be stressed that occasi
instances of advanced A-V block and malign
ventricular tachyarrhythmias have been described
consequence of tricyclic drugs. These complications
rare and are treated as in other settings. Physostigm
was formerly considered a drug of choice for tricy
induced arrhythmias and conduction blocks. T
medication can actually aggravate the elect
physiologic substrate which evokes the abnormality
should probably not be utilized for treatment.[6] On
other hand, propranolol, phenytoin, digitalis, quinid
and procainamide may worsen various blocks
produce hypertension in affected patients. Support
care is best for supraventricular arrhythmias
conduction blocks as previously described.

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Seminars in
Chest Medicine

# inical Conference:

## gnosis of Patients in
Southwest with Solitary
lmonary Nodules

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### tract

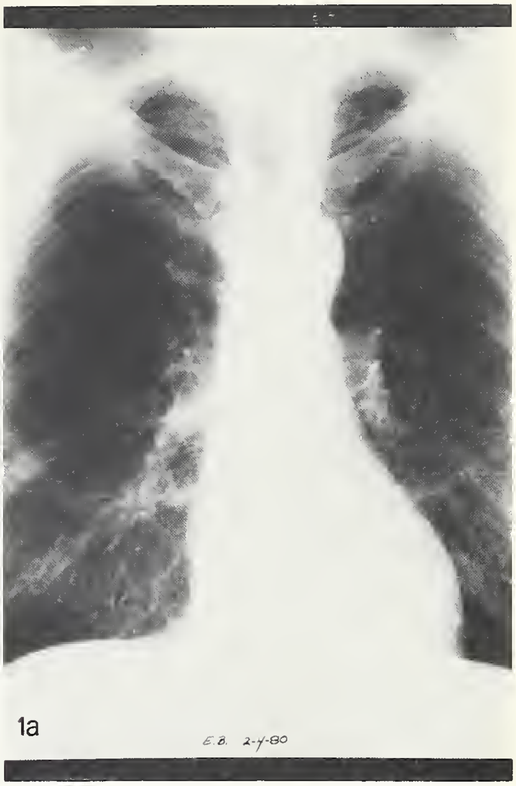
ne approach to solitary pulmonary nodules (SPN) is
erent in the Southwest than in other parts of the
ntry. This discussion is particularly for practitioners
his area. Coccidioidomycosis often resolves in the
n of a SPN and is difficult to differentiate from a
ignant nodule. Needle aspiration biopsy is gaining
ularity as a diagnostic modality and this procedure is
ussed.

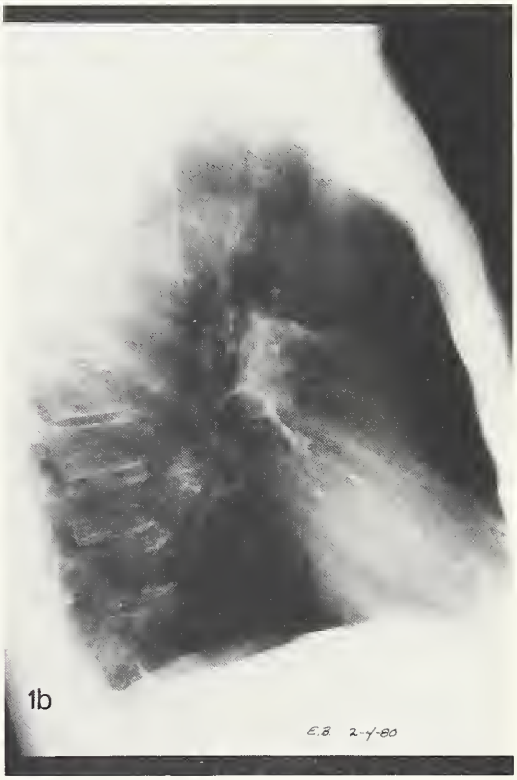
ey Words: Solitary Pulmonary Nodule, Cocci-
domycosis, Clinical Conference, Percutaneous
nsthoracic Needle Aspiration Biopsy of the Lung.

### e Presentation

1r. E. B. is a 59-year-old man evaluated at the Tucson
erans Administration (VA) Medical Center in
ruary 1980 for chest pain. He described the chest
n as a "tightness" persisting four to six hours. He had
worked for two years because of fatigue and chest
omfort. He had visited the Southwest intermittently
denied significant occupational or TB exposure.

n examination his temperature was 37° C, blood
ssure was 126/80, pulse was 60, respiratory rate was 14
weight was 176 pounds. In general he was a well
eloped, well nourished man in no distress.
mination of the lungs and heart was completely
mal.





Laboratory evaluation revealed a white blood count of 7,200 $mm^3$, hemoglobin 15.4 grams per dl, hematocrit 47 percent, $FEV_1$ 3.62 liters, vital capacity 5.39 liters, BUN 14 mg per dl, creatinine 1.1 mg per dl, and an ECG showed slight elevation of the ST segments in leads II, III and $V_2$ and $V_3$. The chest x-ray showed a right midfield nodule with an irregular border radiating into nearby

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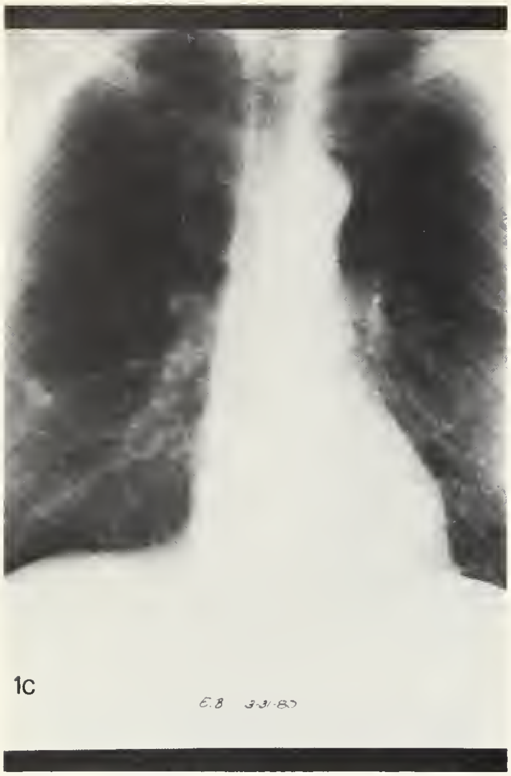
int requests to John Seidenfeld, M.D., VA Medical Center, (111A),
on, Arizona 85723. Presented at the Sixth Annual Primary Care
ate, April 21, 1981.



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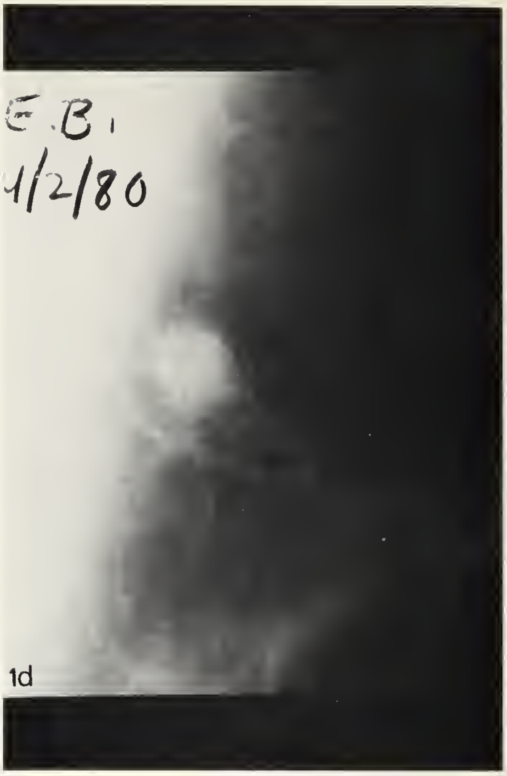

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parenchyma (Figure 1 a-f).

A myocardial infarction was suspected but there were no ECG or enzyme changes and he had a normal cardiac stress test. Coccidioidin skin test (1/200) was 5 millimeters at 24 hours as was candida, and the PPD skin test was negative. Coccidioidin serology was negative and sputa for fungus, mycobacteria and malignancy were all negative.

The assessment was coccidioidomycosis. Tomograms showed no calcification of the lesion; however, a satellite lesion was noted. The CBC showed no new eosinophilia.

The patient was again seen in April and May of 1980 with no new findings, and was rescheduled in December of 1980. He did not report for the clinic visit and was seen again in March of 1981 with a stable lesion noted by the clinician. The lack of progression in the lesion size strongly suggested a benign diagnosis.

**Discussion**

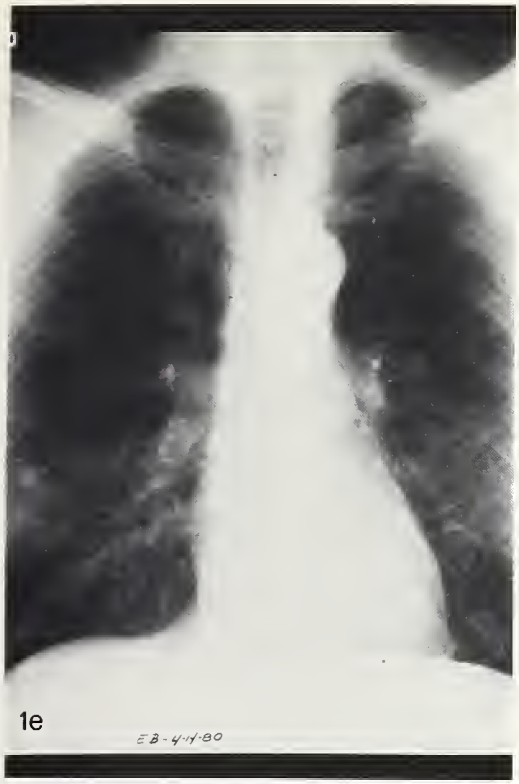
Solitary pulmonary nodules are rounded or oval densities, less than 4 cm in diameter (although some authors include lesions up to 6 cm). They are usually of a homogeneous density, surrounded by lung and separated from the mediastinum and pleura. They have delineating margins with absence of infiltrate. Usually they are sharp, solitary lesions. In a series by Trunk comparing benign and malignant solitary nodules, the benign lesions were smaller at the time of the first evaluation. The benign lesions had more evidence of calcification.[1] In the Southwest the situation is different. Coccidioidal nodules do not calcify as commonly as histoplasmosis nodules therefore this differential point is not as valuable to us as it might be to someone in an area endemic to histoplasmosis. Cavitation in Trun series was seen more frequently in malignant lesio but it was also seen in benign lesions. When two auth looked at age in relation to the primary carcinoma tl found very few tumors in patients below the age of years (Table 1). People over the age of 35 h increasingly more malignant lesions.[1,2]

When we talk about malignant lesions we apply following criteria: they usually double in volume at two months and before 24 months; noncalcification eccentric calcifications are usually found in malign lesions, and in this area coccidioidomycosis rar calcifies so this is less useful as a criterion; and s greater than 4 cm is usually associated with malign lesions.[1-6]

Prognosis correlates with doubling time. If the lesi doubles under 120 days and is a malignancy it

**Table 1**
**Relationship of Age and Primary Carcinoma Appearing as an SPN**

| Age | Trunk[1] (N = 137) percent | Steele[2] (N = 887) percent |
|---|---|---|
| 20-29 | 0 | 2 |
| 30-34 | 0 | 4 |
| 35-39 | 3.1 | 13 |
| 40-44 | 15 | 15 |
| 45-49 | 15.4 | 26 |
| 50-59 | 42.9 | 41 |
| 60-69 | 50 | 50 |
| 70-79 | 100 | 70 |
| 80-83 | —— | 100 |



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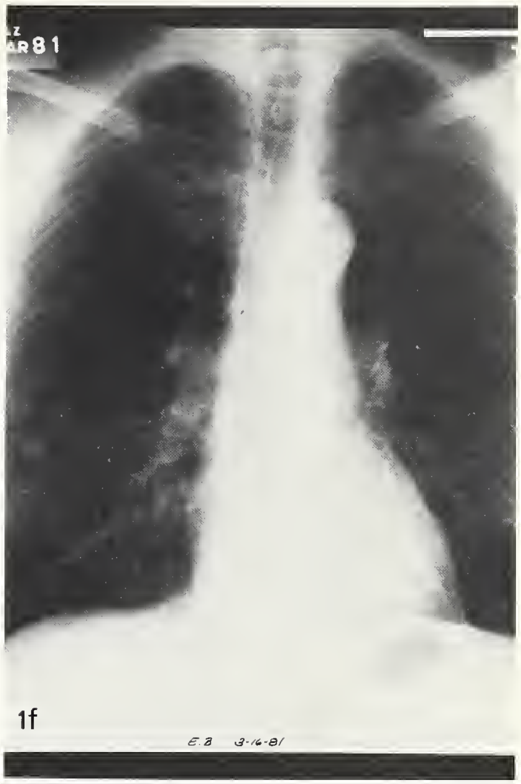

1f

ciated with a poor prognosis.[7] Rapidly growing ons carry a worse prognosis, and are associated with ptoms such as fever, sweats, weight loss, bone pain, CNS problems.

ansbronchoscopic biopsy has a very low yield in this icular problem, particularly for lesions under 2 cm. re are other procedures short of thoracotomy that provide diagnostic material and we will discuss these y. With bronchoscopy it is difficult to enter SPN er fluoroscopy.[8]

**r. Garfield**, at what point should a practitioner refer more definitive diagnostic procedures?

**ield:** If the lesion is found on a random chest x-ray out other films available, the lesion is indeterminate ge. When we first see a patient for a pulmonary ule, we try to categorize him in regard to risks. If he is nger than 35 and a non-smoker with very few ptoms, we are very comfortable following the lesion. e patient is older than 35, smokes heavily, and has emic symptoms, we are much more concerned. e people have estimated that before you see a ule on an chest x-ray it will have doubled 30 times, the lesion has probably been present a minimum of t to ten years.[3] If you wait another month to obtain ow-up x-rays, the delay is an insignificant portion of history of the lesion.

n old x-ray would be the single best tool in judging vth. Radiographic features are useful. If a SPN is oth-walled, like this lesion was, then it is likely to be ign. Sharply delineated, smoothly contoured lesions usually benign.

ne laboratory tests usually consist of skin tests for cidioidomycosis (coccidioidin or spherulin) and tuberculosis (PPD-INT). Cocci serology (precipitins and complement fixation) is helpful. Expectorated sputum samples are useful both for cultures and for cytology. Frequently, the above tests will strongly suggest a specific diagnosis. If the lesion remains in the indeterminate category, one must still decide, based on the patient's risk of cancer whether to follow with serial chest x-rays or to proceed to invasive techniques.

If the patient is high risk, one should proceed with an invasive procedure. On small peripheral lesions, percutaneous needle biopsy definitely has high yield. On proximal larger lesions bronchoscopy has greater yield. If one has decided that a given patient is low risk for cancer, then regular office visits and chest x-rays are warranted. Follow-up films are usually obtained within one to two months, then three to four months, and then every six months for a total of 18 to 24 months. Since some cancers double as slowly as every 450 days, patients must be followed that long.[7] Noninvasive computerized axial tomography has not been useful to differentiate benign from malignant lesions in the Southwest because of the failure of most cocci nodules to calcify.

**Seidenfeld:** What is the role of needle biopsy?

**Bierny:** The indications are basically to diagnose a mass of indeterminate significance anywhere in the lung. When the mass is hilar I recommend bronchoscopy to see if the tumor is protruding into the bronchial lumen and get accurate information about the anatomy of the bronchi that might be useful for surgery. If the bronchoscopy is negative, we go ahead to needle biopsy. Half of the procedures are done on outpatients, making it less expensive. After the procedure the patient is kept in the department under supervision for an hour

### Table 2
### Lung Needle Biopsies — TMC
### 320 Patients

| | |
|---|---|
| 65 | Adeno Carcinoma |
| 29 | Squamous Cell Carcinoma |
| 17 | Oat Cell Carcinoma |
| 21 | Metastases |
| 15 | Undifferentiated Carcinoma |
| 4 | Lymphoma |
| 24 | Other Carcinoma |
| 38 | Cocci |
| 32 | Granuloma |
| 28 | Other Miscellaneous benign |
| 273 | (85%) |
| 16 | Failures |
| 4 | Necrosis |
| 19 | Fibrosis |
| 2 | Atypia |
| 6 | Suspicious |
| 47 | (15%) |

to make sure that there is no complication, such pneumothorax. The patient returns the next morn for a follow-up chest x-ray.

I have done 320 needle biopsies since 1976 at Tucson Medical Center (Table 2). The diagnostic y has been 85 percent. Out of these 320, 175 patients h malignancy, primary or secondary. There were coccidioidomycoses and 32 caseating granulo without definite organism identified. We had f tuberculous granulomas and 24 other miscellane benign lesions. There were 15 percent non-diagno results, either technical failures or the specim showing only fibrosis, necrosis or atypia. The needle t we use is, at the present time, an 18 gauge modif Franseen needle (Cook, Inc.). We obtain a histolog specimen as well as cytology. The performance eas the procedure is the same in most locations but m difficult when the lesion is immediately subpleural. also harder with lesions under 1 cm. We try to make o one hole in the pleura and we avoid the pleural fissu because puncture through a fissure leads to a hig incidence of pneumothorax.

### Table 3

| Reference | Number of Patients | Diagnosis | Pneumothorax Total | Pneumothorax Treated | Deaths | Significant Hemorrhage | Remarks |
|---|---|---|---|---|---|---|---|
| 8 | 410 | 81% | 27% | 7.3% tube | 0.5%<br>1 hemorrhage<br>1 cardiac arrest | 0.2% | #16 or 18<br>Gauge needle |
| 9 | 300 | 80% | 20% | 8%<br>valve or tube | —— | —— | #18 |
| 10 | 186 | 84% | 13% | 5% tube | 0.3% | | core biopsy (histol |
| | 1256 | 82% | 16% | 7% tube | 0.1% | 0.5% | aspirate (cytology) |
| 11 | 100 | 87% | 14% | 4.5% tube | —— | —— | chiba #23—no coc<br>abandoned for #19<br>not good for<br>granulomas |
| 12 | 1223 | 86% | 24% | 4.4% valve | —— | —— | #18 |
| 13 | 151 | 1 LNB—85.5%<br>2 LNB—88.8%<br>LNB = Lung Needle Biopsy | 7.8% | 4.2% | —— | —— | #18 with blood pat<br>8% repeats |
| 14 | 2726 | 1 LNB—80%<br>2 LNB—80%<br>3 LNB—90.7% | 27% | 5% aspiration<br>3% tube | ——<br>—— | ——<br>—— | #18<br>2726 patients<br>5300 biopsies |
| 15 | 430 | 82% | 49% | 21% tube | 0.46%<br>(2 Hemorrhages) | 1.2%<br>(3 transfusions; 2 deaths) | pneumothorax tre<br>if greater than 25%<br>even asymptomati |
| 16 | 400 | 96% | 27% | 10%<br>Heimlich valve | ——<br>—— | ——<br>—— | #20—up to 5 repea<br>no cocci |
| 17 | 50 | 87% | 8% | 4% tube | —— | —— | #23-25<br>mostly peripheral<br>no cocci; not goo<br>for granulomas |
| J-P Bierny TMC '81 | 320 | 85% | 11% | 2.5% aspiration tube or valve 3.4 % | 0.3%<br>1 complication of postpneumonectomy care | 0.3%,1 pneumonectomy. Died of complication of postop care | #18 with blood patch; 4.4% repeat |

we get a small pneumothorax that has clinical ificance we put in a 16 gauge Jelco needle and ate it. We've done it on 2.5 percent of the patients. e patients (3.4 percent), had a significant umothorax that necessitated insertion of a chest or a Heimlich valve. Hemoptysis or other plications are rare but may be fatal or require rgency pneumonectomy. The procedure is, in erienced hands, fast, comfortable, and relatively pensive. The diagnostic rate of 85 percent is high the overall complication rate is low with this nique, certainly significantly lower than with the r techniques or with exploratory thoracotomies le 3).

contraindication to a needle biopsy would be severe hysema, for instance, because that significantly eases the risk of a pneumothorax. Then we contact clinician or chest surgeon to discuss the increased ger involved and make sure that he is readily able in case there is a pneumothorax that cannot be trolled by simple radiological means. traindications also include an abnormal clotting le. We always check PT, PTT and platelets before g it. We have not come up with an abnormal yet, pt in one patient who had leukemia. Patients with emia are particularly prone to bleed.

her factors that increase the danger of bleeding de bronchiectasis or chronic bronchitis, vascular ns, uremia, a bleeding diathesis, or pulmonary ial hypertension. Under all those circumstances we h the risks involved in the needle biopsy against the involved in not doing anything or the risk involved ing an exploratory thoracotomy.

**pbell:** Dr. Bierny, if, in your opinion the patient is a g suspect for having carcinoma, do you feel a le biopsy makes any difference in the way the nt is ultimately managed?

**y:** First of all, from the radiological appearance, with the most smoothly marginated nodule, there way that we can tell whether this is benign or gnant with absolute certainty. It is important to find whether we are dealing with an oat cell carcinoma nstance (which would not require, probably, a cotomy and a pneumonectomy) or with a primary econdary type of malignancy. If the patient has had al previous cancers it is useful to find out whether e dealing with a metastasis and if so, which one of atient's previous tumors is responsible for it.

**dee:** How accurate are criteria, in other words, many false positives or false negatives do you get the criteria you have outlined for diagnosis of a ry nodule?

**y:** I looked up briefly in my results the number of histologies that saved the patient the need for ratory thoracotomy. *It included 112 patients (38 , 32 granulomas of indeterminate etiology, 28 other ellaneous benign lesions, and four lymphomas).*

**nfeld:** Would you clarify what is meant by the ling time?

**Bierny:** It's impossible to reproduce exactly the same radiological setup every time. So, it's a rough measurement at best, and the best way to do it, I would think, would be well coned-down linear tomograms. Graphical solutions and equations are available.

**Seidenfeld:** Another problem that I wanted to point out was cytology. There are studies in the literature now showing that the cytological results on needle aspiration biopsy don't correlate with the results found at thoracotomy or autopsy.[18-21] A diagnosis of oat cell carcinoma on needle aspiration biopsy may not correlate with thoracotomy diagnosis in about 12% to 15% of the cases.

**Bierny:** I think that is a problem with cytological needle aspiration done with various skinny needles. Thin needles are not good for granulomas, one of our major problems in Tucson. I've been using a needle that yields a histological specimen and there the correlation with the surgical specimen is excellent. There are a few carcinomas with a variety of histologies in different parts of the same specimen.

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Seminars in Dermatology

# An Unusual Granuloma in an American Returning from India

## A Clinically Resembling Cutaneous Leishmaniasis

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### Introduction

We present a 58-year-old man who returned from India with a large cutaneous tumor on his forehead and a smaller one on his chest. Although clinically highly suggestive of the "wet" form of cutaneous leishmaniasis, the diagnosis could not be substantiated.

### Case Report

A 58-year-old American man of European ancestry was referred to us in August 1981 for evaluation of two skin lesions. The patient noted that three months earlier he developed a nodule on his chest, which grew for several weeks and then ulcerated in the center. One month prior to our evaluation a larger, but similar lesion developed on his right temple. The patient had just returned from a three year stay in India, residing mainly in an ashram in Poona. He recalled being frequently bitten by many insects throughout his long stay; however, no one else in his ashram had, to his knowledge, a similar skin lesion. Past medical history was remarkable for genitourinary tuberculosis, treated in 1952.

On physical examination two skin tumors were apparent. The most prominent one was on the right temple (Figure 1), appearing as a 6 x 4 cm firm tumor with central necrosis and exudation. A 4 x 2 cm shallow u was evident on the right chest with an erythemat indurated border.

Multiple elliptical biopsies of the tumors and mult cytologic smears failed to demonstrate leishm organisms with Giemsa or other stains. Histologic the biopsies showed an ulcerated epidermis wit granulomatous reaction composed of histiocy multinucleated giant cells and lymphocytes (Figur Many neutrophils were also seen. Examination of specimens with polarized light failed to show foreign bodies.

Bacterial cultures of both lesions showed 4+ S. au Special leishmania culture media (NNN) was emplo when multiple specimens were transported to laboratory facilities of the Department of Parasitol Epidemiology and International Health of the Unive of California, San Francisco. Cultivation for leishm was negative.

Leishmanin skin test material was obtained courtes the above department and injected intraderm adjacent to skin tests of Candida, trichophyton ar units of tuberculin. The Leishmanin skin test was enti nonreactive whereas the other three were positive

Serologic specimens were sent to the Laborator the Parasitic Serology Branch, Diagnostic Serol Laboratory, of the Center for Communicable Dise Atlanta. They showed the following: Leishmani agglutination $\leq$ L 1:16 (diagnostic titer $\geq$ 1.32) fo donovani, $\leq$ 1.32 for L. braziliensis (diagnostic tite 1:64) and $\leq$ 1:64 for L. tropica (diagnostic titer $\geq$1:1 The complement fixation test for leishmania negative.

The patient received no therapy and after four we both skin lesions were clearly resolving. The patient t elected to leave the state and has been lost to follow examination.

### Comment

Old World cutaneous leishmaniasis (CL), also ca the Delhi boil, Oriental sore, Bagdad boil, etc, common disease among people in certain parts of southeastern Europe and Africa.[1-3] In endemic regi people sometimes intentionally infect their childre nonexposed skin areas to avoid possible mutilating s in cosmetically sensitive sites. There are a numbe reports of Americans traveling in endemic areas suc India, Iraq and Israel in whom CL developed.[2,6] CL highly suspected in our patient since he had returned from two years in an ashram in Poona, India is a specific ulcerative granuloma of the skin cause the protozoan *Leishmania tropica*, a parasite of rod (mainly gerbils) and domestic dogs. It is transmitted certain species of sandflies, as are visceral leishmani (caused by *L. donovani*) and mucocutaneous or World cutaneous leishmaniasis (caused by *braziliensis).*[1,6]

Clinically, the acute CL skin lesions may indistinguishable from lesions such as those in patient. The lesion may appear with an initial pap

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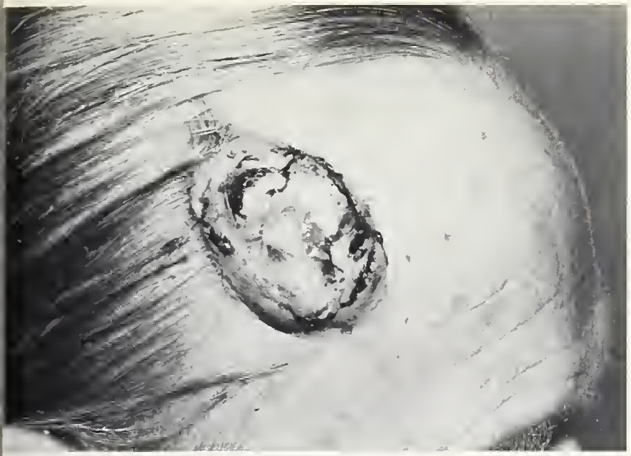

Figure 1
rge tumorifaction on the right face resembling the "wet" n of cutaneous leishmaniasis.

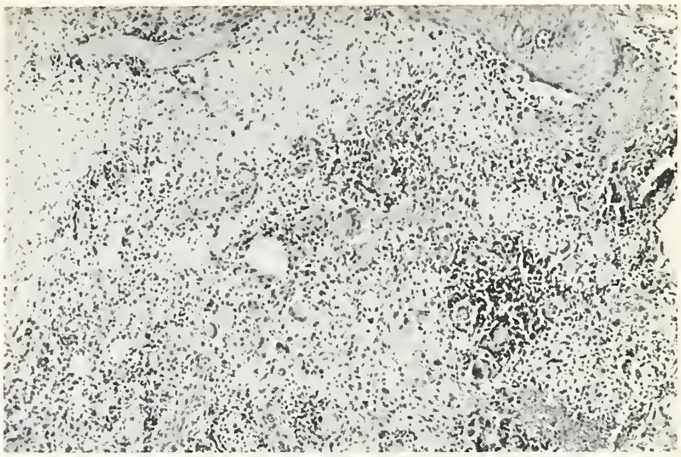

Figure 2
Microscopic view, showing an ulcerated tumor with dermal granulomas. (Giemsa stain, original magnification x 100).

ch after scaling and crusting, breaks down into a ly extending indolent ulcer that may heal ntaneously with scarring. Acute CL has been rated clinically into a "wet" and a "dry" form. The ner is said to have a short incubation period, ulcerate y, and heal within two to six months. The latter has a ger incubation period, ulcerates later, and heals in 12 months. Leishmaniasis recidivans, or late CL, develop around apparently healed CL scars. The bation period of CL is variable, ranging from months nany years.[1] The amastigote forms multiply at the ulation site after the insect bite. This reproduction s place in macrophages, with an infiltration of ma cells and lymphocytes—parasite destruction ws this host cellular reaction. This is why parasites more commonly found in early closed lesions than n ulcerated ones. Thus, in lesions resembling those n in our patient, the diagnosis may be very difficult to ument.

hen multiple smears and skin biopsies of a icious skin lesion fail to demonstrate leishmania anisms within the macrophages or free in the tissue—n with a Giemsa stain—this small protozoan may be difficult to show. Special culture techniques are lable at specialized centers such as ours.[7] ertheless, in our patient the multiple cultures in N media were negative, as were the serologic tests ormed by the CDC in Atlanta. Such serologic tests occasionally be positive for CL and thus useful. ordingly, the diagnosis rested on the leishmanin skin .

n this skin test a suspension of washed promastigotes . *Tropica* is injected intradermally (0.2 cc) and the is evaluated at 48 to 72 hours. A positive reaction i.e., uration of over 5 mm diameter, indicates that the ent has been exposed, even in the absence of an ve infection. It usually takes four to six weeks after osure to become positive. Thus, in an American or ther person from an area not endemic for hmaniasis, a negative skin test over six weeks after possible exposure in the presence of apparently intact cellular immunity (demonstrated by a positive response to mumps, candida, tuberculin or other common antigens) makes the diagnosis appear unlikely.

However, to us other etiologies for the cutaneous granuloma in our patient are even less probable. We doubt a granulomatous response to a bacterial infection such as *S. aures* or a foreign body granuloma in our patient. Since there is much still to be learned about leishmaniasis.[1,7,9] The diagnosis of CL is still favored by us even in the absence of laboratory confirmation.

## Acknowledgment

We thank Donald Heyneman, M.D., Professor and Vice-Chairman, Department of Parasitology, Epidemiology and International Health, UCSF School of Medicine for his clinical assistance with this patient and making available both leishmanin skin test materials and the facilities for culturing this protozoan. We appreciated his presentation at our Dermatology Grand Rounds with Clinicopathologic Case Presentations held July 29, 1981 at the San Francisco Veterans Hospital. We thank Loretta Maddox for her assistance in preparing this manuscript.

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Seminars in Gastroenterology and Liver Disease

# Endoscopically Placed Pancreaticobiliary Stents and Drains

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## Abstract

Although transhepatic biliary drains and stents have been used for a number of years, the insertion of such conduits endoscopically has only recently been developed. We describe currently available biliary stents and drains, their diagnostic and therapeutic uses in both the biliary tree and pancreatic duct, and the technique of endoscopic insertion. The use of these conduits, while still evolving, offers major advances in evaluation and treatment of diverse pancreaticobiliary diseases.

Endoscopic retrograde cholangiopancreatography (ERCP) has become a well-established tool in the diagnosis of pancreaticobiliary disease. More recently, the introduction of endoscopic sphincterotomy has allowed nonoperative treatment of some of these diseases including choledocholthiasis, papill stenosis, and selected periampullary neoplasms.[1-3] Mc recently still, endoscopically-placed biliary a pancreatic stents and drains have been introducec Such instruments offer not only improved diagno yield, but also the addition of new therapeu modalities for the treatment of some pancreatic a biliary diseases. This article reviews these evolvi diagnostic and therapeutic indications.

Key words: endoscopy, pancreas, bile duct, ster drains.

## Materials and Methods

Technically, biliary drains can be inserted with without endoscopic sphincterotomy using modification of the Seldinger technique.[6] T technique requires free cannulation of the common b duct (or pancreatic duct), with an ERCP cathet passage of a guide wire into the distal intrahepatic du through this catheter, followed by catheter remo (Figure 1). Thereafter, a 300 cm, 5 French, pig- catheter (Cook Catheter Company, Bloomingto Indiana) is threaded over the guide wire which subsequently removed. The scope is then remov while simultaneously advancing the catheter into t duodenum (Figure 2). After passage of a urinary cathe through the nose and out the mouth, the bili drainage catheter is then transposed to a transna position. If done for biliary or pancrea decompression, the catheter can then be hooked gravity drainage and the fluid obtained cultured or se for cytology. If done for dissolution of common bile du stones, a variety of solutions can be infused.

Internal biliary stents can be purchased or fashion by trimming off the pig-tail plus 5 cm to 10 cm of a bili drain. Insertion is usually done after endoscop sphincterotomy in the setting of biliary calculi which a too large to pass or for unresectable periampull neoplasm. The prosthesis is implanted by inserting over a guide wire using the 300 cm biliary catheter a pusher tube. Depending upon the level of obstructio the pig-tail, open within the common bile duct, kee the stent in place while multiple side holes effect bili decompression.

## Representative Cases

Patient 1: A 58-year-old diabetic, hypertensive m presented with jaundice, spiking fever, and right upp quadrant pain. Past history was significant for multip strokes, left AK amputation for peripheral vascu disease, and an acute anterior myocardial infarcti three months prior at which time he had sustained cardiopulmonary arrest. Physical examination reveal a septic, jaundiced, elderly man with exquisite hep tenderness. Laboratory data revealed a leukemo reaction (WBC count 32,000) and an SGOT and alkali phosphatase of approximately three times normal. To bilirubin was 6.3 mg/dl (normal $< 1.2$ mg/dl), 4 mg which was direct. Biliary ultrasound demonstrat gallstones and a nondilated common bile duct. Becau

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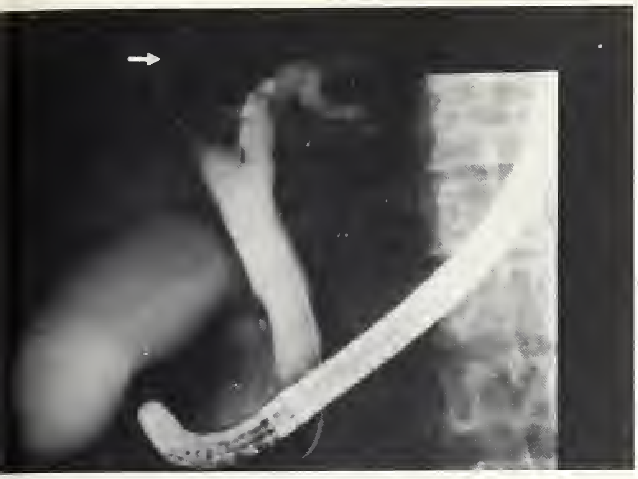

Figure 1
**ow delineates guide wire within the right hepatic duct. The bladder is intact and the common bile duct dilated.**

he patient's recent myocardial infarction and general ility, he was started on broad-spectrum antibiotics underwent ERCP. This demonstrated multiple culi within the common bile duct. A 1.5 cm incterotomy incision was made and several stones rieved with a stone basket. Because additional stones sisted, a transnasal biliary drain was inserted and nnected to gravity (Figures 1 and 2). The patient mained asymptomatic; repeat cholangiogram ough the catheter 48 hours after sphincterotomy, ealed complete stone passage. The patient has been nptom free in the ensuing six months.

atient 2: A 50-year-old man had been explored at ther institution for abdominal pain and fever. An 8 x m mass was found in the head of the pancreas. hough the mass was felt to be malignant clinically, it wed only chronic inflammation on biopsy. Six nths after exploration, the patient was evaluated at institution for intractable pain and a fifty pound ight loss. Physical examination revealed cachexia, but organomegaly or masses. With the exception of an umin of 2.4 gm/dl (normal > 3 gm/dl), laboratory a, including amylase, was normal. Pancreatic asound demonstrated a complex mass in the creatic head suggestive of malignancy. ERCP ealed a deformed duodenal sweep, a normal nmon bile duct, a mildly dilated pancreatic duct, and x 3 cm cavitation in the pancreatic head. Because it uncertain whether this mass was a pseudocyst or itating tumor, a transnasal pancreatic drain was ced and cytology collected for 24 hours (Figure 3) This inage proved benign and the patient subsequently erwent internal drainage, without event, of what ved to be a pseudocyst.

## cussion

RCP is a useful diagnostic tool in obstructive jaundice a variety of pancreaticobiliary conditions. There are es, however, particularly in the setting of chronic creatitis, when differentiation of benign from ignant disease via ERCP is impossible.[7] In these

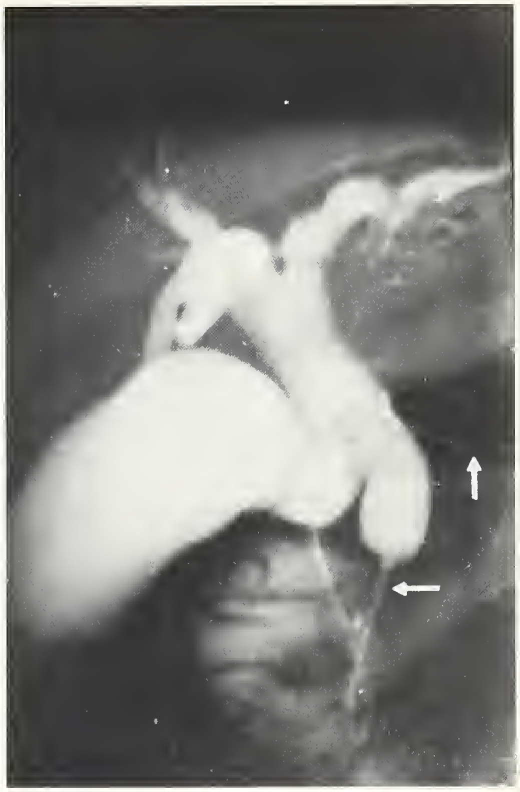

Figure 2
**Course of transnasal biliary drainage catheter is traced by arrows.**

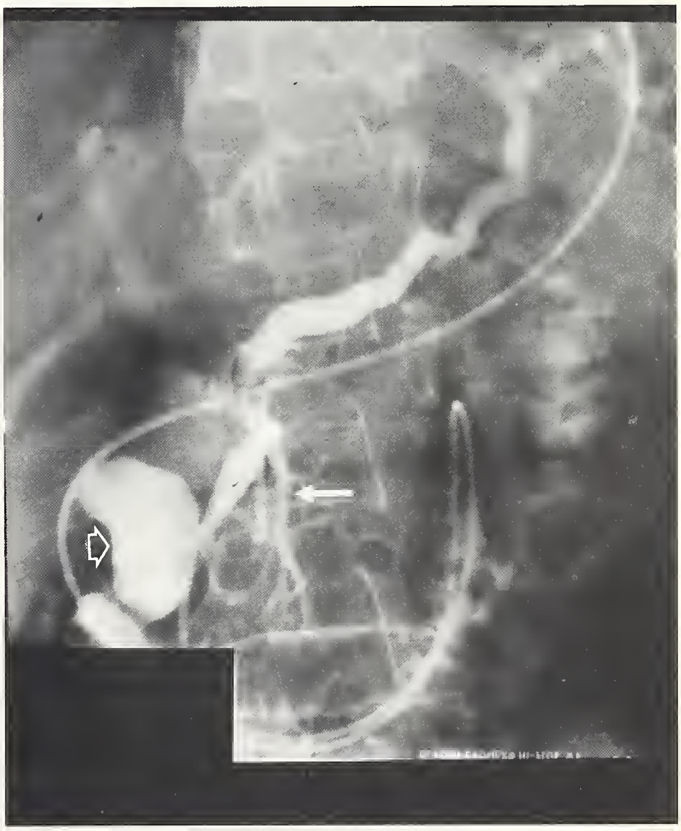

Figure 3
**Pancreatic drainage catheter is seen with distal end (small arrow) in the genu of a mildly dilated pancreatic duct. A pseudocyst is noted (large arrow) as is faint visualization of the common bile duct.**

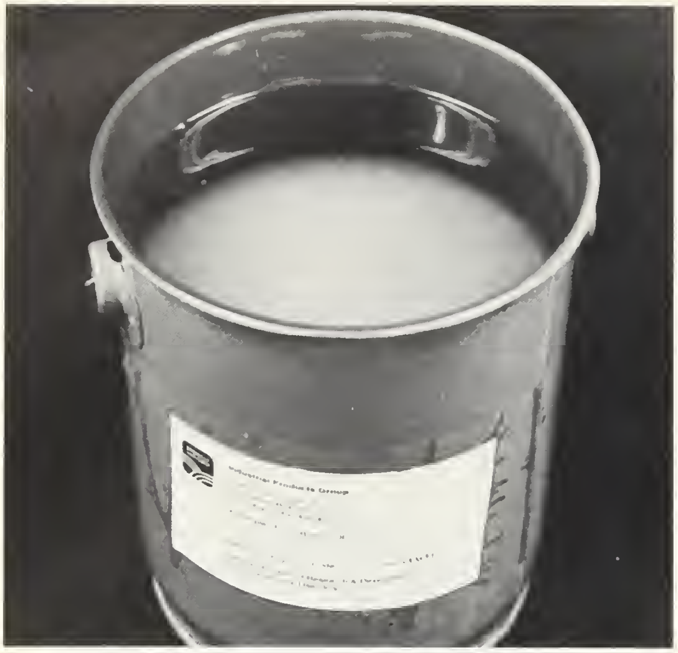

**Figure 4**
**Monooctanoin (Capmul 8210) used for cholesterol stone dissolution. Solution requires sterilization and passage through a micropore filter prior to use.**

settings, surgical exploration or thin needle aspiration cytology under ultrasound or CAT scan guidance may be necessary.[8,9] An alternative diagnostic modality in patients such as this, is insertion of a transnasal drainage catheter for cytologic analysis. Here, cytology positive for tumor cells would avoid further diagnostic testing and may obviate surgery if the patient is deemed unresectable. Such drains have also been used diagnostically and in a clinical research setting to obtain pure bile or pancreatic juice for chemical analysis or culture and sensitivity.[5] From the therapeutic standpoint, use of endoscopically placed biliary drains is a major advance. Such tubes can be used preoperatively in cases of uncomplicated obstructive jaundice,[10] a setting in which preoperative bilirubin levels have been shown to correlate with morbidity and mortality.[11,12] They can also be used in lieu of, or in addition to endoscopic sphincterotomy for common bile duct stones. Here, tube placement into the common bile duct, with or without concomittant sphincterotomy, allows infusion of cholesterol solublizing agents. Although a number of chemicals have been used including heparin and chenodeoxycholic acid, monooctanoin (Campmul 8210, Stokely-Van Kamp, Indianapolis, Indiana), while still an investigational agent, is presently the preferred solvent (Figure 4).[13] Infused manually by gravity or pump, a T-tube manometer assures infusion pressure of less than 15 cm of water. Partial or complete stone dissolution has been noted in 76 percent of patients in the largest uncontrolled multicenter study to date.[14] Such dissolution may be particularly helpful in patients who have undergone sphincterotomy but have stones too large to pass through the incised sphincter.

In addition to their use in uncomplicated jaundice choledocholithiasis, such catheters can also be use acutely decompress the biliary tree in active cholan or pancreatitis caused by stone or periampullary tu in which endoscopic sphincterotomy cannot accomplished.[4,10] Finally, insertion of such a tube all access to the biliary tree after endosc sphincterotomy to assure complete passage of com bile duct stones. The placement of this cath therefore avoids the necessity of repeat ERCP sev days postsphincterotomy.

Internal biliary stents are useful in a number of cli settings similar to those in which the drains are u These include: stone disease in which sphincteroto unsuccessful, or the calculi are too large to pass into intestine, or with periampullary neoplasm in high surgical patients.[4] Unlike the transnasal drains which be irrigated, the small caliper of these stents can lea plugging which may necessitate placement of mult stents or to intermittent replacement.

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Medical Genetics

# rt II:

# enetics and Obstetrics

## e Early Detection of gh-risk Pregnancies with ternal Serum AFP Testing

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**tract**

laternal serum AFP (alpha-fetoprotein) levels are uable for the early detection of high-risk gnancies. AFP testing can only be done with the ilability of good obstetrical ultrasound, an erienced laboratory and genetic counseling. If tational age is reasonably accurate, high and low AFP els often indicate problems in pregnancy. These blems include low birthweight, fetal distress, tiple gestations, neural tube and abdominal wall ects, gut atresia, nephrosis, maternal diabetes and emia of pregnancy. The requirements for AFP testing ractice are spelled out.

**oduction**

major aim in contemporary obstetrics is the early ection of high-risk pregnancies. The level of serum AFP (alpha-fetoprotein) is useful as an indicator of impending complications of pregnancy.

Table 1
Serum AFP Testing During Pregnancy

| | | |
|---|---|---|
| **Clinic patients** | | |
| No. tested (total) | 2,771 | 100.0% |
| High AFP | 66 | 2.4% |
| Low AFP | 36 | 1.3% |
| **High AFP** | | |
| Complications of pregnancy | | 77.3% |
| No complications | | 22.7% |
| **Low AFP** | | |
| Complications of pregnancy | | 72.2% |
| No complications | | 27.8% |
| **Private practice patients** | | |
| No. tested (at 16-18 wks.) | 1,566 | 100.0% |
| High AFP | 39 | 2.5% |
| Low AFP | 1 | < 0.1% |
| **High AFP** | | |
| Complications of pregnancy | 24 | 61.5% |
| No complications | 15 | 38.5% |

*Based on Reference 1., Milunsky et al. Also see Table 2.*

**Background**

An association was initially observed between high amniotic fluid AFP levels and neural tube defects: anencephaly and open spina bifida. This association has now been amply confirmed. A similar association was then observed between high maternal serum AFP and neural tube defects. It appears now that high and low AFP levels in maternal serum are general indicators of a host of complications in pregnancy.

AFP is the fetal equivalent of serum albumin. Beginning in the second trimester of pregnancy, AFP rises in maternal serum at a rate of about 20% per week, reaching a peak at about 30 weeks gestation. The level of AFP is usually expressed in International Units (I.U.)/ml. In determining whether an AFP result is normal, it is best compared to the median, the middle value, for that gestational age. The reasons for utilizing the median (rather than the mean) are that the median is hardly influenced by occasional outlying values and further only about 50 results for each week in pregnancy are needed to establish a stable median. A high AFP may be defined as: greater than 2.5 **M**ultiples **O**f the **M**edian (MoMs). A low AFP is defined as: at least 0.4 MoMs.

Excellent pilot programs for maternal serum AFP testing have now been done in the United States, in Maine, Massachusetts, New York, California, and North Carolina. These programs appear efficient, safe and cost-effective. We will examine two of these programs in detail.

**U.S.A. Programs**

**Massachusetts**

In Massachusetts two groups of pregnant women were tested for serum AFP. One group consisted of 2,771 women attending a hospital obstetric clinic; these

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n: The Genetics Center of Southwest Biomedical Research tute, 123 East University Drive, Tempe, Arizona 85281.

### Table 2
### Complications of Pregnancy Detected with High Serum AFP

| No. Complications | 24 | 100.00% |
|---|---|---|
| Fetal demise | 7 | 29.2% |
| Multiple gestations | 6 | 25.0% |
| Neural tube defects | 3 | 12.5% |
| Congenital nephrosis | 1 | 4.1% |
| Other complications | 7 | 29.2% |

*Based on Reference 1, Milunsky et al.*

### Table 3
### Estimated Results of AFP Testing (A Sample)*

| | | |
|---|---|---|
| No. pregnant women tested | | 1,000 |
| Abnormal AFP results: 1st serum sample | | 50 |
| Abnormal AFP results: 2nd serum sample | | 30 |
| Referred for ultrasound examination: | | 30 |
| Twins, triplets, etc. | 8 | |
| Corrected gestational age | 6 | |
| Fetal demise | 2 | |
| Unexplained abnormal serum AFP | 14 | |
| Referred for genetic counseling and amniocentesis to test amniotic fluid AFP & acetylcholinesterase and chromosomes in amniocytes | | 14 |

**Various results, depending on the sample of patients, can be envisaged; this sample is taken arbitrarily to show the sequence of events beginning with serum AFP screening.*

women were tested to delineate the normal range of AFP values. High AFP occurred in 2.4% and low AFP occurred in 1.3% of these patients, as shown in Table 1.

The second group of women was seen in private obstetrical practices and represents a true screening experience with the usual time of testing being 15 to 22 weeks (optimal: 15 to 18 weeks) gestation. High AFP values occurred in 2.5% of these women tested at 16 to 18 weeks gestation. The associated complications of pregnancy are listed in Table 2.

The program in Massachusetts utilized a highly experienced AFP laboratory. This is an absolute necessity in serum AFP testing.

**North Carolina**

A countywide program was carried out in Forsythe County, North Carolina (which contains Winston-Salem). AFP testing was routinely done at 16 to 18 weeks gestation, and a total of 3,476 women were tested.

Whenever an abnormal AFP value was found, a second confirmatory test was done. In our opinion, this is a useful step to verify the abnormal AFP level.

In the North Carolina program high serum AFP was found in 2.1% of the cases and low serum AFP in 2.8%. Low AFP was defined in this study as less than 10 ng./ml. (We prefer less than 0.4 MoMs below the median

The reasons for the high AFP tests in North Car
were: six with fetal demise, ten multiple gestations
four neural tube defects. The low AFP tests
associated with incorrect estimates of dates in 61 c
fetal demise in 14 cases and a hydatidiform mole in
case.

The North Carolina study was designed especially
metropolitan area. It supports maternal serum
screening as "a valuable addition to prenatal care w
the screening tool is viewed as a point of departur
(a) more extensive diagnostic process."

**Sequence of Events in Serum AFP Testing**

The usual steps in maternal serum AFP testing a

1. Information is given to the patient about
screening.
2. Blood (red-top tube) is drawn from the pa
optimally at 15 to 18 weeks (limits: 15 to 22 we
gestation.
3. If AFP is normal, stop. If AFP is abnormal (hig
low), repeat test on a second sample of serum (red
tube) immediately.
4. If AFP on second assay is abnormal again, exan
patient by ultrasound (to verify dates, detect twins,
demise, etc.).
5. Offer amniocentesis (to test amniotic fluid AFP
do chromosome studies of amniotic fluid cells).
6. Provide obstetric and genetic counseling to pat
at all times.

**Estimated Results in Serum AFP Testing**

The estimated results of screening 1,000 preg
women are shown in Table 3. Other results may o
with different patient populations. However, the san
in Table 3 gives a general idea of the winnowing d
process.

**Prerequisities for Starting Serum AFP Testing**

Among the necessities for a serum AFP tes
program are the following:

1. Expert obstetrics (confirm pregnancy, estin
dates, etc.).
2. Experienced AFP laboratory.
3. Screen *all* patients in one's practice or clini
ideally 15 to 18 weeks (limit: 15 to 22 weeks).
4. Obstetric ultrasound available.
5. Genetic counseling available.
6. Experienced prenatal diagnostic team (am
centesis, amniotic fluid AFP and acetylcholineste
assay and chromosome studies of amniocytes).*

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*The next article in this series on "Genetics
Obstetrics" will be on "Alpha-feto Protein Screenin
Pregnancy—A Test Whose Time Has Come" contribu
by James E. Haddow, M.D., George J. Knight, PL. D.
Edward M. Kloza, M.S. from the Foundation for Bl
Research, Scarborough, Maine. Dr. Haddon and
colleagues are among the key workers who have d
AFP Serum testing in pregnancy. Thus, we will devo
second article in this section to this advance in gene
and obstetrics.

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## *Oncology*

# Decision-making Factors in the Adjuvant Treatment of Operable Breast Cancer

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Radical surgery with or without postoperative radiation has plateaued in its ability to cure breast cancer. Ten years after optimal local treatment, relapse-free survival (RFS) for all potentially curable breast cancer patients is only 50% and relapses continue to occur.[1,2] Surgery and/or radiation fail to cure breast cancer because, in most patients, the disease is systemic at the time of detection. The elimination of these occult micrometastases is a reasonable objective in the attempt to alter the natural history of breast cancer. The theoretical rationale for studying the use of adjuvant chemotherapy towards accomplishment of this goal is well established in animals.[3]

In designing adjuvant trials or in using adjuvant chemotherapy after local treatment of a primary breast lesion, consideration should be given to which groups of patients retain a significant risk for recurrent disease. Data compiled over the last 10 to 15 years suggests that the three best prognostic factors are: a) the number of axillary lymph nodes involved with tumor; b) the size of the primary tumor; and c) the presence or absence of estrogen receptor protein in the tumor.[1,2,4,5] The risk of recurrence rises with the primary tumor size and with an increase in the number of axillary lymph nodes involved. Additionally, tumors which have significant levels of estrogen receptor (ER) protein present recur less often and after a longer disease-free interval than ER negative tumors. These factors are interactive, however. (For example, node negative women with ER negative tumors have a significant risk of recurrence and are therefore potential candidates for adjuvant therapy.)

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When to initiate adjuvant therapy after primary treatment is of significant concern since several studies have suggested that a delay in some subsets of patients is detrimental to the effect of adjuvant therapy.[6-8] Animal studies also support this concept.[3] A reasonable approach is to initiate therapy as soon as possible after treatment is completed.

Surgical adjuvant chemotherapy trials now make up a significant part of ongoing clinical research in early breast cancer. The final anaylsis of any trial will require years of follow-up, but tentative conclusions are warranted. Adjuvant trials can be broken down into four categories: 1) pre-1970 studies utilizing brief perioperative single-agent treatment; 2) studies of one- or two-drug programs; 3) studies of the three-drug combination CMF (cyclophosphamide, methotrexate, and 5-fluorouracil); and 4) studies utilizing adriamycin-containing combinations. Some early trials employed concurrent randomized controls (surgery alone), but most later trials did not. The rationale for conducting studies without a concurrent surgery alone control arm is supported by the fact that the control arms from randomized studies have thus far provided essentially identical results.[9,10]

The first two categories of studies appear to have some potential flaws. In the pre-1970 era, adjuvant study design was influenced by the mistaken premise that distant metastases were the result of tumor dissemination during the surgical procedure. Hence, chemotherapy (e.g., thio-TEPA) was administered at the time of surgery.[4] Even so, positive results were observed in some subgroups.[4]

Adjuvant studies in the early 1970's used only one or two drugs and have had positive results in only certain subsets of patients, perhaps because of less than optimally effective treatment.[2,9] In a treatment plan where the ultimate objective is to induce an increased rate of cure, it would seem reasonable to utilize significant doses of the most efficacious drugs known for treating breast cancer; however, these concepts were not fully developed in the early 1970's.

Adjuvant regimens utilizing CMF, CMF plus other agents, or adriamycin-containing combinations have all demonstrated benefit in relapse-free survival and overall survival in node-positive, pre- and postmenopausal women. In June 1973, the Milan Tumor Institute initiated a study of 386 node-positive women, randomizing them to surgery alone or to surgery followed by 12 months of CMF treatment. Five-year results, when analyzed for patients who received 65% or more of the calculated optimal dose, demonstrated significant overall and RFS benefit for both pre- and postmenopausal patients.[10-12] Cooper et al.[13] have published five year results on 100 patients with four or more positive lymph nodes treated with cyclophosphamide, methotrexate, 5-FU, vincristine, and prednisone (CMFVP) for nine months. Both pre- and postmenopausal patients had significant benefit in RFS and overall survival.[13]

There are two adjuvant trials with significant follo up which have utilized adriamycin-containi combinations. Adriamycin is the most active sin chemotherapeutic agent in advanced breast cancer. the University of Arizona, 248 patients have receiv adriamycin plus cyclophosphamide (AC). At four ye of follow-up, node-positive patients have had benefi RFS and overall survival.[14] Similar findings have be reported from MD Anderson Hospital utilizing AC a 5-FU (FAC) plus BCG in 222 node-positive patients.[1

Thus far, only one study has accumulated significa follow-up taking estrogen receptor protein analysis i account. Hubay et al.[16] have reported on three y results of a study using low-dose CMF plus or mi tamoxifen (an anti-estrogen). Both pre- a postmenopausal women who were estrogen recep positive benefited from the addition of tamoxifen their regimen. Other trials of chemohormonal thera are still very preliminary.[17,18] The incorporation immunotherapy modalities into adjuvant regimens being evaluated in several studies, but no conclusi can be made at this time about the role of adjuv immunotherapy.[19]

Since not all patients who have received adjuv chemotherapy have clinically occult metastatic disea the long term toxicities of systemic chemotherapy ar valid concern. To date, no current adjuvant trial reported an increased incidence of eith myeloproliferative disorders or second solid tumors compared to control groups.[10,20] Adriamycin-contain regimens still have an unknown long-term risk of card toxicity.

The adjuvant treatment of breast cancer is an area active clinical and laboratory research where new ide objective, and prognostic variables continue to described. The therapeutic impact thus far utilizing di combinations (CMF, CMFVP, or adriamycin-contain regimens) appears to be significant for essentially subsets of node-positive patients, while less vigoro treatment (e.g., single agent) appears to have limi effectiveness.

However, whether three-to-five year improveme in RFS and overall survival will translate into cu remains to be proven. An ideal objective for adjuvant treatment of breast cancer would be to ta the most effective and least toxic regimen for ea prognostic subgroup of patients. It is hoped that fut studies will identify such ideal treatment.

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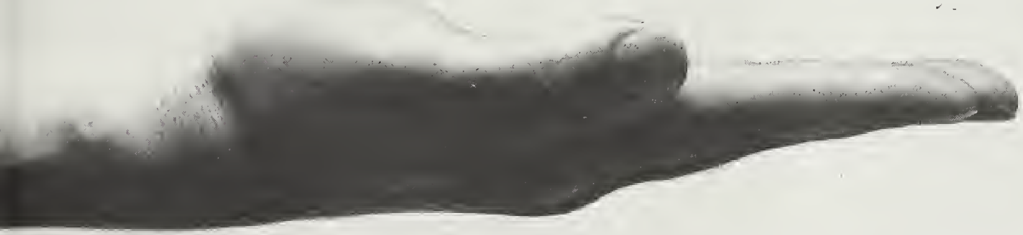

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> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.
**Adverse Reactions:** Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
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*Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
*Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
*Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
*Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
*Endocrine:* Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.
*Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.
**Dosage:** Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.
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## *Radiology*

# Case of the Month No. 56

Jonathan M. Levy, M.D.
Gerald H. Becker, M.D.
Samuel J. Hessel, M.D.

70-year-old lady came to the emergency room with dominal pain and rectal bleeding. After colonoscopy, arium enema was performed (Figure 1).

Vhat are the findings?

Vhat is the prognosis?

---

m: The Departments of Diagnostic Radilogy (JML, SJH) and troenterology (GB), Scottsdale Memorial Hospital, 7400 East orn Road, Scottsdale, Arizona 85251.

*Continued on next page*

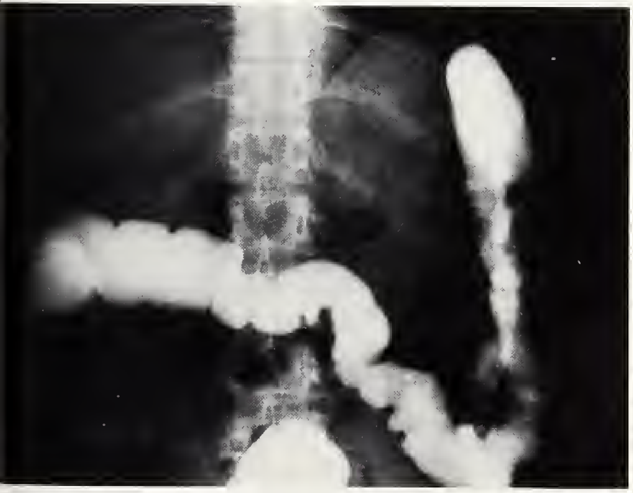

**Figure 1A**
**Representative film from barium enema.**

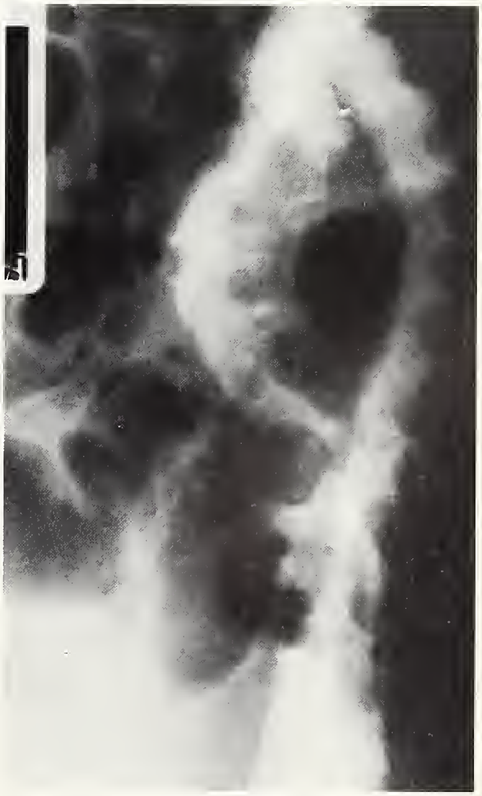

**Figure 1B**
**Spot film of the splenic flexure.**

## Answer:
## Ischemic Colitis

Abdominal pain and bloody diarrhea are common complaints in the older population. This combination of symptoms can be seen in such diverse entities as diverticulitis, inflammatory bowel disease, carcinoma of the colon and ischemic colitis. Early flexible colonoscopy is the primary procedure used to investigate these patients, and may differentiate the processes listed above. Patients with ischemic colitis usually have bizarre polypoid or ulcerated lesions of the colon, and duskiness of the colonic wall, all of which reflect edema and submucosal hemorrhage secondary to the ischemia.

On barium enema, ischemic colitis typically shows "thumbprinting," or scalloping of the colonic wall due to submucosal hemorrhage (Figure 1A and 1B). This is usually accompanied by spasm of the involved segment. One to three weeks later, ulcerations may develop, which are similar to those seen in ulcerative colitis. However, in ischemic colitis the rectum is spared. The splenic flexure and/or descending colon are most often involved, as the inferior mesenteric artery is the vessel usually compromised. Rapid changes in the roentgenographic pattern are characteristic of ischemic colitis, and this rapidity of change differentiates the disease from all other causes of colonic pathology.

Patients with ischemic colitis should have careful clinical follow-up. Signs of peritonitis (at times accompanied by free air) suggest colonic perforation, an emergency requiring immediate surgery. Ischemic bowel may heal completely, but the more common sequela is asymptomatic colonic stricture. A small percentage of patients develop symptomatic strictures which require surgery. Our patient is currently recovering from her ischemic episode.

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*Surgery*

# Necrotizing Fasciitis of the Head and Neck

Neil O. Ward, M.D.
Dennis W. Berry, M.D.

Editor:
Jack Friedland, M.D.

**Abstract**

Necrotizing Fasciitis is an uncommon conditi resulting from bacterial infection in subcutane tissues. It may begin with minor injury or infection a can progress rapidly and end in death.

Despite early admonitions to widely excise infect tissue, the mortality rate remains high. Antibi therapy is adjunctive to good surgical management.

The disease process, including diagnosis a treatment is reviewed and a dramatic case is report

Key Terms: Necrotizing Fasciitis, Bacterial Synergis Anaerobic Infections.

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From: 5251 West Campbell, Suite 110, Phoenix, Arizona 85031. Re requests to Dennis W. Berry, M.D., 5251 West Campbell, Suite Phoenix, Arizona 85031.

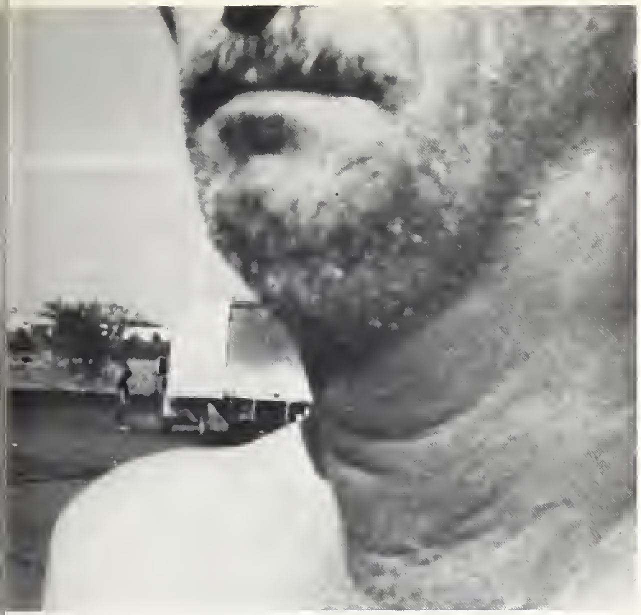

Figure 1
tograph at truck stop taken by friend. Swelling below angle nandible and edema of neck well demonstrated.

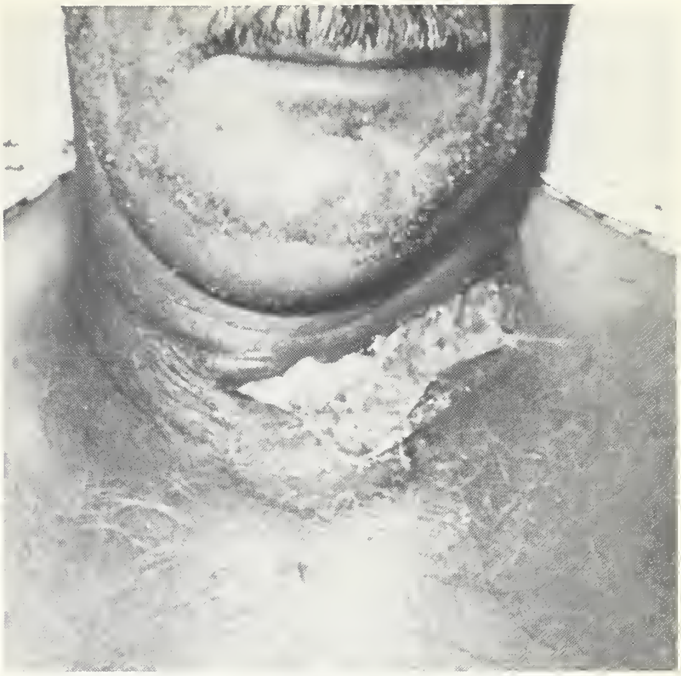

Figure 2
Neck skin necrosis despite vigorous parenteral antibiotic therapy.

Iecrotizing fasciitis is an uncommon condition ulting from bacterical infection in the subcutaneous ues. Despite the early admonitions to excise affected ues widely and the development of potent imicrobials, mortality remains high.

he infection is characterized by an aggressive eading process that extends through tissue via fascial nes. Most reported cases involve the trunk, dominal wall or lower extremities.

he literature review and case report by Bulma and nalis[1] brought to a total of eight, the number of ported head and neck cases. We briefly review the ease process and add an additional head and neck e.

Meleny[2] first described this process and termed it ute hemolytic streptococcal gangrene. Additional ms for the same process have added confusion to the erature. Hospital gangrene, gangrenous erysipelas, crotizing erysipelas and synergistic gangrene are ner names.[3] Necrotizing fasciitis probably best scribes the clinical and pathological features of the ease.

Minor trauma or infections frequently precede the velopment of necrotizing fasciitis. Surgical peritonitis y predispose to this condition.[4] Diabetes mellitus has en reported in 81% of patients in one series of cases.[5]

Bacterial cultures frequently yield a mixed flora. eleny found hemolytic streptococci in each of his ginal cases. Others have found streptococci in only % to 60% of cases.[3]

ack of anaerobic techniques and presence of open unds may prejudice findings and treatment. Fifty-ur organisms were isolated from 25 patients in a series reported by Fisher et al.[5] Repeated cultures throughout the course of the disease and good anaerobic techniques are important. Blood cultures may be positive for streptococcus in 25% to 30% of cases.

Bacterial synergism between an aerobic and an anaerobic organism may be important.[6] It would seem reasonable to consider this process as a clinical entity rather than a specific bacterial infection.

## Case Report

A 42-year-old white male truck driver developed a sore throat. After approximately one week, the patient was seen in an out-of-state emergency room for the evaluation of his sore throat. He was examined, had a throat culture taken and no antibiotic was prescribed. The throat culture subsequently revealed only normal flora. About 24 hours following the emergency room visit, the patient noticed the onset of swelling in the left lower neck. This progressed and while enroute to Phoenix, the patient saw another physician, who administered a penicillin injection. About four days prior to hospitalization, a dentist prescribed an oral cephalosporin but the swelling and erythema of the neck progressed. The patient developed some difficulty with respirations and began to expectorate purulent material.

At the time of admission, he presented with a diffusely swollen, firey red process, involving the entire left and anterior cervical areas and extending down to the level of the clavicle. Admission white blood count was 25,000 per cu.mm. with a leftward shift. Drainage of pus from the neck ulcer was submitted for aerobic and anaerobic culture.

The patient was admitted to the hospital and placed

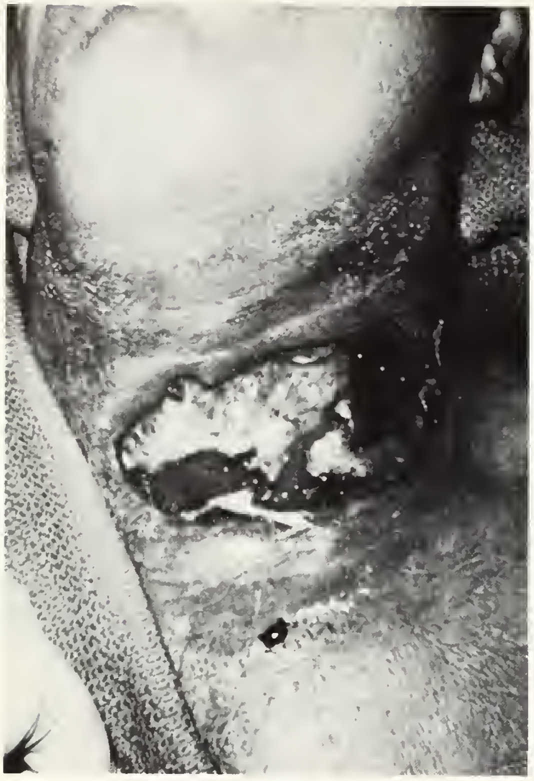

Figure 3
Appearance of neck at time of surgical debridement.

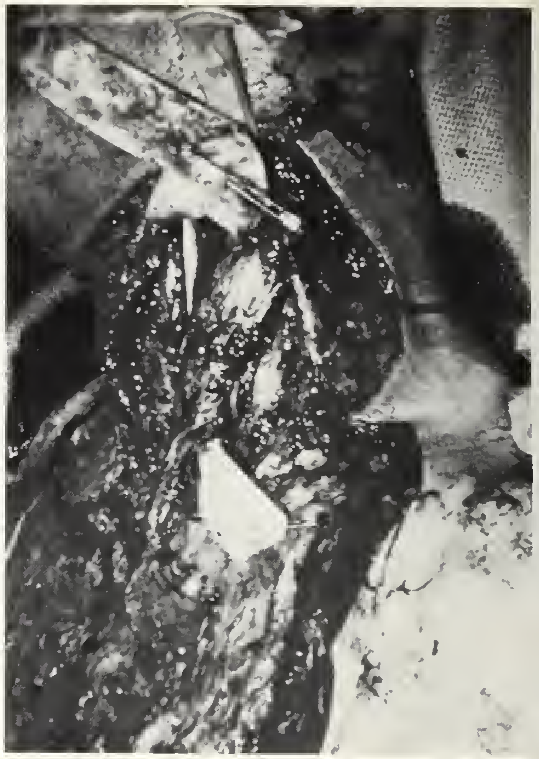

Figure 4
Extent of debridement.

on high dose intravenous penicillin. Purulent material was seen to be coming from an opening near the inferior pole of the left tonsil. The neck erythema progressed inferiorly over the anterior chest with obvious necrosis and breakdown of the skin involving the left neck.

Gentamycin and clindamycin were added and 24 hours later, the patient was taken to the operating room for debridement of the necrotic cervical skin. At the time of surgery, foul smelling, thin, cloudy drainage exuded from the soft tissue planes and a definite border with normal skin and subcutaneous tissue was not encountered until the dissection and excision of the skin reached the level of the nipples on the anterior chest. Drains were placed through an obvious orocervical fistula and appropriate debridement of necrotic muscle and soft tissue was performed.

The postoperative course was stormy and the patient experienced a fall in weight from a normal of 160 to 118 pounds. Approximately two weeks following the initial debridements, split thickness skin grafts were applied to the neck. Nape of neck pedicle flap repair of the left neck was subsequently accomplished. At the time of the hospital discharge, the patient's weight had increased to 128 pounds.

Final identification of organisms cultured from a specimen obtained at the time of surgery included Peptostreptococcus anaerobius, Peptococcus magnus, Peptococcus indolicus, probable Bacterioides vulgatus, probable Bacterioides ovatus and an unidentified gram positive cocci.

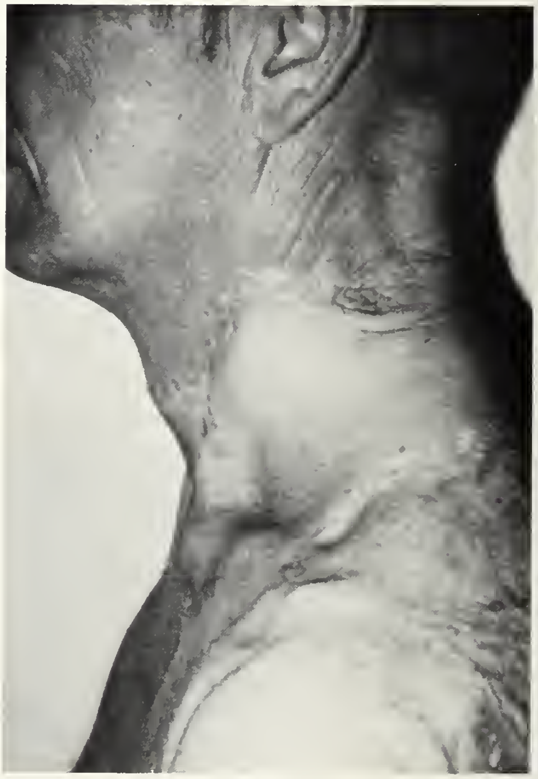

Figure 5
Neck following reconstruction with posterior cervical fl

## Discussion

Following initial bacterial growth in subcutane tissues, there is rapid spread along fascial planes. may be facilitated by bacterial hemolysi fibroinolysins, collagenase and hyaluronidase.[7]

ırse may be altered by antimicrobials but may be minant and fatal.

nitially there is pain at the site of infection or injury. er hours or days, rapidly spreading painful erythema l edema appear. Margins are not distinct, and gically the subcutaneous dissolution may extend ond the erythema. As skin changes advance to nvolved areas, the more proximal skin becomes ky, cyanotic and bullae may form.

nesthesia and necrosis of skin, subcutaneous tissue, l fascia progress to frank gangrene and slough. pable or radiographic evidence of subcutaneous gas or to tissue breakdown constitutes evidence of erobiasis.

arly recognition, vigorous antimicrobial therapy and le surgical debridement are the keys to successful nagement.

enicillin combined with clindamycin or oramphenicol is a logical initial regimen. As bacterial sitivities become available, adjustments may be de. The traditional combination of cephalospirin and inoglycoside is probably not as good a choice, and in ilus fragilis infections, should not be used as it may ually facilitate growth of the anaerobe.[8]

t surgery, diseased tissue should be widely outlined l excised. The extent of involvement may be prising, as the exploring finger easily sweeps through ected planes, releasing foul, turbid, soapy tissue ds. Wounds should be left open or covered with light ne soaked dressings that are changed frequently. As icity and infection subside, reconstruction with grafts l flaps can be leisurely planned.

Jnfortunately, even with early adequate treatment, rtality may approach thirty percent. Earlier medical rature suggested even higher fatality rates.

**nmary**

Despite widespread availability of antibiotics, grenous processes have not been irradicated. In ients so afflicted, wide surgical excision of grenous tissue, appropriate antimicrobials and onstructive procedures are required to salvage life l function.

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# *Editorials*

## Clinical Pharmacology

Drugs. Often condemned, usually safe and effective when used appropriately under thoughtful and informed professional direction. Virtually all physicians prescribe them. Nearly all patients take them. Who determines that they are effective and safe?

Clinical pharmacologists share much of the responsibility for establishing the safety and clinical effects of drugs. Usually affiliated with medical schools, clinical pharmacologists are physicians with special training and experience in pharmacology and are concerned with research into the effects and mechanisms of action of drugs in humans. The scope of their activities can be illustrated by a brief description of clinical pharmacology at The University of Arizona College of Medicine.

Clinical pharmacology at the University of Arizona is organized as a joint effort of the Departments of Pharmacology, Internal Medicine, Anesthesiology and Pediatrics. As is usually the case, most of the clinical pharmacologists are internists with primary or joint appointments in the Department of Internal Medicine. In addition to patient care responsibilities in their area of specialization and duties as attending physicians, the clinical pharmacologists serve as consultants and carry out research in basic and clinical pharmacology. The consultation service ranges from advice about the best therapeutic management of difficult cases to expert supervision of the care of patients suffering from drug or chemical intoxications. In each situation, the clinical pharmacologist applies considerable depth and breadth of knowledge in pharmacology and toxicology combined with medical judgment to provide the best possible advice. The clinical pharmacology service is routinely called in on cases of drug overdose and poisoning that reach Univeristy Hospital. The clinical pharmacologists also serve as medical consultants to the Arizona Poison Information Center and provide 24-hour support to the staff of the Center.

The major thrust of clinical pharmacology programs is to develop new information and concepts through research. At the Arizona Health Sciences Center, for example, clinical pharmacologists study mechanisms and clinical effects of hypoglycemic drugs and hormones, the metabolism and therapeutic uses of antineoplastic drugs, pharmacokinetics and interactions of drugs used in pulmonary and cardiovascular disease, drug effects on pulmonary circulation in infants, evaluation of novel hormone analogs of potential value in treating bleeding disorders, drug effects in the elderly, and mechanisms of drug toxicity due to specific metabolic alterations in the body. The research efforts are often carried out in collaboration with other basic and clinical scientists. Most of the research is supported financially by research grants from the National Institutes of Health; although support from pharmaceutical companies is important for studies of investigational new drugs. Cooperative interactions from these companies are especially important to academic clinical pharmacologists as a source of advanced information about investigational drugs and exposure to new concepts and scientific developments.

As drug therapy increases in complexity, and as knowledge progresses to allow more rational and specific application of therapeutic agents, there will be a growing need for medical specialists with detailed knowledge of drug actions. We can predict the continued growth of clinical pharmacology as a valuable area of medical specialization.

Thomas F. Burks, Ph.D.
Professor and Head
Department of Pharmacology
Louis J. Kettel, M.D.
Dean

## Flinn Foundation Establishes Endowed Chair at Medical School

Robert S. Flinn, M.D., of Phoenix is known to Arizonans as a distinguished physician and generous benefactor. During his 50 years of active medical practice, he cared for patients, instructed residents and young physicians, and served organized medicine with dedication, dignity, and concern.

But for Dr. Flinn, the world of medicine has always extended far beyond the narrow confines of office, hospital, and even the community. Deeply committed to the pursuit of professional excellence and scientific progress, Dr. and Mrs. Flinn established the Flinn Foundation in 1965 as a private entity devoted to providing grants for improvement of health care with an emphasis on cardiology, primarily in Arizona.

A major focus of the Flinn Foundation has been Arizona's health care training institutions, and its most recent grant is the establishment of an endowed chair for the head of the Department of Internal Medicine at the University of Arizona College of Medicine.

The $1 million grant was announced May 14 at the Class of 1982 convocation by Dr. Donald K. Buffmire, Vice President of the Flinn Foundation Board of Trustees. In accepting the gift, Dr. Louis J. Kettel, Dean of the College of Medicine, said the endowed chair would be called the Robert S. and Irene Flinn Chair of Medicine in honor of the foundation donors. Dr. Rubin Bressler, Professor and Head of Internal Medicine will hold the endowed chair. Dr. Flinn, Foundation Chairman, attended the convocation.

Dr. Flinn, a member of ArMA's prestigious 50-Year Club since 1978, came to Arizona as a six-year-old, lived in Kingman and then Prescott where his father, Dr. John W. Flinn, started the first tuberculosis sanitorium. After graduating from Prescott High School, Robert Flinn went on to Harvard as an undergraduate and stayed to earn his medical degree in 1927. A year later he returned to Prescott, moving to Phoenix in 1930 to establish a practice in internal medicine, specializing in cardiology. Together the Flinns, father and son, practiced a total of 100 years in the state of Arizona.

During his years in practice, Dr. Flinn carried out a number of studies in electrocardiology at St. Joseph's Hospital and Medical Center in Phoenix. He served as Head of that hospital's Department of Cardiology and as President of the medical staff. He is a former President of the Maricopa County Medical Society and the Arizona Heart Association and was a co-founder of the latter organization.

The Flinn Foundation established a visting professor program in internal medicine at the University of Arizona and at St. Joseph's Hospital in Phoenix. It also provided funding for some of the first studies of electrocardiogram results at St. Joseph's. In conjunction with the American Heart Association, Arizona affiliate, the Flinn Foundation previously provided support for an endowed chair in cardiology in the University of Arizona College of Medicine.

As Congressman Eldon Rudd noted at the 1978 dedication of the Maricopa County Medical Society Robert S. Flinn Medical Library, "Dr. Flinn has shown selflessness and unselfishness through the years." The Arizona Medical Association salutes him for his devotion to the medical profession and the people of Arizona

## Briefly Noted

### What They're Saying

"A recent article in the *New Eng*
*Journal of Medicine* pointed out
approximately 53% of the hospital
dollar was used by 13% of the patients.
that there was a very high associatio
these high-cost patients with obe
diabetes, heart disease, lung disease,
cirrhosis of the liver. In effect, since
percent of Americans will be admitte
a hospital per year, 1.3% of Americ
accounted for 53% of the hospital
dollar. And this accounts only for
chronic effects of these habits and
nothing about car accidents, etc. rela
to drinking and drugs." (From a Lette
the Editor, *Wall Street Journal*, Decem
21, 1981).

**Briefly Noted** attempts to help Ariz
physicians maintain contact with
another. Please let us know if you h
recently received an honor or aw
been elected to office, given a spe
traveled to a foreign country, or have
interesting or unusual hobby. We s
appreciate your contacting us also if
are aware of honors and accompl
ments of your fellow physicians.

**Emmanuel G. Barnet, M.D.**, Phoe
was presented with the Award of Meri
the American College of Allergists at
Annual Congress Meeting in
Harbour, Florida, in January of this y

**Otto L. Bendheim, M.D.**, Phoe
discussed "The Psychiatric Autopsy"
11 at the annual meeting of the Kentu
Bar Association in Louisville.
Bendheim was also the April speaker
the *Health Talks* series co-sponsored
the Arizona Medical Association and B
Cross and Blue Shield of Arizona.
topic was "Stress. . . and How to Live
it."

**George S. Craft, M.D.**, Tempe,
named to the Tempe St. Luke's Hosp
Board of Trustees, a group of 15 busi
and civic leaders who direct the hospit
services, facilities, and programs.
Craft was president of the hosp
medical staff for three terms.

**Murray A. DeArmand, M.D.**, Dire

the University of Arizona Student alth Service, Tucson, was elected sident-Elect of the American College alth Association. The annual meeting the American College Health ociation, representing college and versity health services providing care leven million students throughout the ited States, held its annual meeting in ttle, Washington, in April.

**onn G. Duncan, M.D.**, Tucson, has n elected to a two-year term as Chief taff at El Dorado Hospital and Medical nter.

**arl L. Meyer, M.D.**, Nogales, is the v Chief of Staff of Holy Cross Hospital Health Care Center in Nogales.

**avid A. Ogden, M.D.**, Professor of dicine and Chief of the Renal Section niversity Hospital in Tucson, has been lected Vice President of the National ney Foundation, Inc.

**rving M. Pallin, M.D.**, Sun City, eived the State of Israel's Heritage ard for service to the Jewish nmunity and Israel at a reception in nple Beth Shalom on April 17. Dr. in serves on the Temple Board of ectors and is President of the Temple h Shalom Brotherhood.

**eopito L. Robles, M.D.**, Tucson, is the vly elected President of the Society of lippine Surgeons in America, Inc. The organization, founded in 1972, has a membership of 457 Filipino physicians practicing in the United States, Canada, and Guam.

**C. Bland Giddings, M.D.**, Mesa, was profiled recently by *The Arizona Republic* as a physician with an interesting practice and unusual hobbies. Dr. Giddings, who practices nuclear medicine, was described as "an accomplished cellist, a genealogy buff, and a bird fancier." At the age of ten, Dr. Giddings began playing the cello and continued with his musical studies while an undergraduate at Brigham Young University. Today, he performs regularly as a cellist with the Mesa Symphony Orchestra.

The Giddings collection of birds is housed at his Mesa home in a fenced 12-acre site. It includes three South American parrots, geese, ducks, and hundreds of chickens. A large white Australian cockatoo, the pride of the collection, occupies a small room of its own at the office.

As a result of his interest in genealogy, Dr. Giddings was able to trace his family back through the centuries. His forebears arrived in America in 1635, and he numbers among his ancestors Charlemagne and Alfred the Great of England.

**Dr. Giddings at work**
**(Sean Brady/Republic)**

*Medical History*

# Curiosities of Midwifery

Adolphus H. Noon, M.D.
1838 - 1931

## Transactions of the Arizona Medical Association Seventh Annual Session Tucson, Arizona May 17 and 18, 1898

Editor:
John W. Kennedy, M.D.

**This revealing vignette of medical practice comes to us via Diane Noon Matsch, a great granddaughter of A. H. Noon, M.D. Her father, Zonus Noon, M.D. (1905-1981), was a grandson of A. H. Noon, M. D. (1838-1931). Both longtime practitioners in Nogales. A. H. Noon, M.D. arrived in the Arizona Territory in 1878. We are indebted to Dermont W. Melick, M.D. who sent this article to *Arizona Medicine*. JWK**

Nearly twenty years of medical practice in Arizona, quite a portion of it among our Mexican population, has given me opportunities of observation amongst them, the communication of which may perhaps prove interesting to some members of the Arizona Medical Association, as illustrating the accepted truth, sometimes almost lost sight of, in occasionally extreme antiseptic obstetric precautions, that parturition is often all a natural physiological operation, with a marked tendency in most cases, with but little assistance from the practitioner to a favorable termination and subsequent healthy recovery, that instrumental interference is not often needed, and that great antiseptic care in ordinary obstetric cases is not as necessary as some practitioners imagine, in these days of terrible bacilli, microbes, et hoc genus omne.

The Parteras or Midwives amongst the Mexicans appear to have all learnt their lessons in midwifery from the same sources, their modes of procedure and general proceedings, being almost singularly alike; although of course some are much more intelligent, careful and cautious than others; indeed occasionally one of them will get so excited and worked up, apparently with the impression that without much kneading of the stomach, and shaking of the abdomen, parturition cannot possibly take place, that they injure or at least seriously exhaust and wear out their patients. In all cases they tie more or less tightly around the stomach a closely rolled or folded cord or bandage, with thick folded compress fitting over the pit of the stomach. This pad and its fastenings is called a "Faja," and is often drawn so tight as to impede the motion of the diaphragm and interfere with the circulation, and has I think been in some cases to which I have been finally summoned a leading cause of serious or fatal post partum hemorrhage. In addition to using the bandage the midwife will sometimes press her knuckles firmly into the pit of the patient's stomach and knead thereat so vigorously, under the impression that she is aiding in the expulsion of the foetus below and preventing it from again rising above, as to seriously aid in the harm effected. The patient is usually held in a half standing or kneeling position hanging by her hands to a rope from the roof, supported as necessary by her husband or the women, sometimes for hours at a time, until delivered or exhausted nature surrenders and she is compelled to lie down or be entirely supported. When at last the child is born, unless the placenta follows and drops from the vagina unaided, the midwife after tying and cutting the funis will then tie the pendant portion with a cord to the patients thigh, in order as they explain to prevent the after birth from again rising into the uterus, and will then leave it to come away by itself, through the subsequent movements of the patient, or to remain and decay, afraid apparently to make any efforts to its extraction. I have been repeatedly called upon 24, 36 or more hours subsequent to child birth to extract a retained placenta needing only slight manipulation to remove it from the vagina.

Another curiosity of their midwifery is in some cases the marvellously timid use of water the utter non-use of any antiseptic precautions whatever, even to that of washing the parts. Any solution being sometimes forbidden for a full lunar month as highly dangerous and injurious, and the funny feature of it all with out modern views of the necessity of antiseptic care is that I have never seen a case even in hot weather where in ordinary healthy cases any particular ill results appear to have followed this outrageous lack of even reasonable cleanliness. I have only once come across in Arizona a well marked case of puerperal septic fever, that is to say one following an uncomplicated case of parturition (perhaps the general dry climate of Arizona may have something to do with its infrequency). I will mention that in that case, in addition to usual local treatment I used quinine and Fowler's solution internally, the latter quite freely, and my patient made a good recovery, whilst a similar case which I treated long ago in California with main reliance, besides the injections, upon calomel and the then usual treatment proved fatal, and I have never forgotten the final ghastly cadaverous look, and typical, anxious staring eye of that particular patient. Arsenic being so powerful an antiseptic, the free use of Fowler's solution, with other appropriate general treatment, appears to me worthy of special consideration, especially in the early stages of puerperal fever or threatened septicaemia.

Where no unreasonably rough treatment is used amongst the Mexicans, their average results from lay treatment, destitute of all precautions, and with no knowledge whatever of the use of modern obstetric instruments appears to be favorable and a lacerated perineum or injured cervix uteri is practically unknown, it may of course be supposed that they have a better constitution and general health than is usual with our American patients, but except with Indian women, this is manifestly not the case, and aside from the curiosities of midwifery among them, it may perhaps give a valuable proof that whilst not necessary to depreciate the value of modern antiseptic precautions, still in ordinary obstetrics it is possible to go to needless lengths and that with regard to the use of ergot, our forceps, curetts and other instruments, they should be used only with much care and discretion and a realization of the fact that unnecessary or hurried interference with the natural physiological operation of parturition should be avoided, and although of course we sometimes encounter cases which make cold chills run down our backs and call for all out skill and sometimes heroic treatment, yet as a rule nature is herself the best obstetrician and given sufficient time with kindly and reasonable assistance generally is fully competent to attend to her own business.

## *ArMA Report*

**The minutes appearing in this secti
have been condensed. A complete co
of the minutes of any meeting will
sent to any member requesting them**

### GOVERNMENTAL SERVICES COMMITTEE

The Governmental Services Comm
tee met on April 14, 1982.

The position paper on health planni
has been approved by the Board
Directors. The Board requested tha
be distributed to county societies a
various health planning agencies.

The Board of Directors supported a
approved the Governmental Servic
Committee's recommendation conce
ing the repeal of the National Hea
Planning and Resources Developm
Act of 1974 (HR4554).

The Professional Committee h
endorsed the proposed resolution
sodium labeling that will be introduc
at the 1982 meeting of the House
Delegates. Endorsement was a
requested from the Governmental S
vices Committee. It was moved a
carried that the Governmental Servic
Committee endorse the resolution
sodium labeling to be presented at t
1982 House of Delegates Ann
Meeting.

Because of the action taken by t
Professional Committee and the Boa
of Directors, the committee moved a
carried to refer the proposed resoluti
on empty calories to an appropri
section of the Governmental Servic
Committee for further study.

It was moved and carried to refer
proposed resolution on salt and hyp
tension to an appropriate section of
Governmental Services Committee
further study.

It was moved and carried to refer
proposed resolution on nutrition a
food stamps to an appropriate section
the Governmental Services Commit
for further study.

It was moved and carried that
Governmental Services Commit
sponsor a resolution on organ a
tissue donors and the need for
Arizona Medical Association to cond
an educational campaign for phy
cians, hospital personnel, lay grou
and the general public to improve
availability of tissues and organs
transplant.

vas moved and carried to create ons of the Governmental Services mittee on health planning, onmental health, and rules and ations. A steering subcommittee of Meyer, Dandoy, Kossuth, Peltier Baker will establish the terms of ence for these new sections. Dr. uth volunteered to chair the onmental health section. Dr. Meyer d the committee members to act him or Kevin Walker with names rsons to serve on the sections.

## EXECUTIVE COMMITTEE

e Executive Committee met on 23, 1982. The following items were ussed and motions made.

e Executive Committee considered ecommendations contained in the agement consultant's report ared by Lawrence-Leiter and pany together with the comments recommendations of the Executive ctor. It was determined to submit following recommendations to the d of Directors.

**Lawrence-Leiter Recommendation (page 9-A)**

Executive Director's salary inses should be tied to a realistic tion rate and need not be capped.

**cutive Committee Recommendation**

The Executive Committee agrees the above and the same will be sidered by it each fall when it does Board of Directors' mandated review e Executive Director's salary.

**Lawrence-Leiter Recommendation (page 11-A)**

Establishment of a contract for the cutive Director does not seem worth ntial problems.

**cutive Committee Recommendation**

The Executive Committee agrees the above and recommends the e not be pursued.

**Lawrence-Leiter Recommendation (page 140-A)**

Installation by ArMA of a word essing system.

**cutive Committee Recommendation**

Executive Committee agrees and ests Executive Director to proceed nore fully set out in later recomdations.

**Lawrence-Leiter Recommendation (page 18-A)**

Interfacing with existing AM quard equipment.

**cutive Committee Recommendation**

Executive Committee recommends ction of such interfacing for the ons that the present system is being d close to capacity for its originally-intended purpose of typesetting and the stability of AM International is not good at the present time and, compared with Wang, its future in the area of word processing is questionable.

5. **Lawrence-Leiter Recommendation (page 18-B)**

Request a demonstration of the Wang OIS-115-3 and the NBI OASys 8 and decide between these two vendors.

**Executive Committee Recommendation**

Executive Committee agrees and requests Executive Director to proceed with demonstration, as well as determinations of cost and financing available in order to make a decision on how to proceed. Because of tight cash flow, some type of lease-purchase as opposed to a direct cash purchase would probably be preferable.

6. **Lawrence-Leiter Recommendation (pages 24-B and 25-A)**

Life insurance and a long-term disability plan be extended to all employees.

**Executive Committee Recommendation**

Executive Committee agrees that this would be an excellent fringe benefit and the Executive Director is in process of getting cost estimates; and the Committee would recommend that when such estimates have been received they be referred to the Finance Committee for its consideration and action.

7. **Lawrence-Leiter Recommendation (page 25-B)**

Ten holidays be provided to employees.

**Executive Committee Recommendation**

After comparing the ten days which could be provided, with those (8½) currently being provided, the Executive Committee recommends that there be no change in ArMA's present policy in this regard.

8. **Lawrence-Leiter Recommendation (page 26-A)**

ArMA's pension plan be reviewed to determine if costs might be reduced by:

A. Changing full vesting to 10 years.

B. Intergrating of benefits with social security.

C. Extending vesting eligibility to three or four years after employment.

Changes in the plan would require approval by ERISA and IRS, and current plan participants may have to be "grandfathered" or allowed to choose between plans.

**Executive Committee Recommendation**

Since the Finance Committee had recommended a similar review, which is currently underway, it is recommended that this be referred to the Finance Committee for its further deliberation when figures and answers are available from the insurance company. However, the Executive Committee would remind the committee that this is the most important employee benefit ArMA has and is one of the reasons the turnover is so low.

9. **Lawrence-Leiter Recommendation (page 26-A)**

Expansion of printing department services to members.

**Executive Committee Recommendation**

In light of the authorization of such expansion last year by the Finance Committee and the fact that this is in full swing at this time, the Executive Committee feels no futher recommendation is required and that only continued monitoring is necessary.

10. **Lawrence-Leiter Recommendation (page 30-A)**

Rental of meeting rooms.

**Executive Committee Recommendation**

With the action taken by the Board of Directors on 3/27/82 regarding rental of meeting rooms to those groups charging an admission or registration fee, the Executive Committee recommends that nothing further be done for a year or two to see just how much income will be generated from the activity.

11. **Lawrence-Leiter Recommendation (page 30-B)**

Pursue gifts and bequests.

**Executive Committee Recommendation**

Realizing that this has been an ongoing activity for a number of years, with little results, and considering the fact that the Scientific Assembly Committee will soon be exploring possibilities of raising funds from pharmaceutical firms for the continuing series on "Current Perspectives," and that any major push would require an exceptional amount of staff time, the Executive Committee would recommend only that we continue to pursue this type of funding as we have in the past.

12. **Lawrence-Leiter Recommendation (page 31-A)**

Increase advertising.

**Executive Committee Recommendation**

In January, ArMA executed a contract with an agency to accomplish an increase in advertising and, therefore, the Executive Committee recommends that we do nothing more for a year or so until we can see how this new relationship develops.

13. **Lawrence-Leiter Recommendation (page 31-B)**

Serve the rural medical societies, providing services similar to Maricopa County, etc.

**Executive Committee Recommendation**

Executive Committee recommends referral to the Long Range Planning Committee for its review, consideration and recommendation, with a reminder to that committee, however, that it is ArMA's present policy not to compete with MCMS services.

14. **Lawrence-Leiter Recommendation (page 31-C)**

Add two floors to the building for rental space.

**Executive Committee Recommendation**

In addition to tremendous construction expense and possible rezoning considerations, the Committee is informed that Phoenix is facing a potential glut in office space and, therefore, recommends that the idea of adding to ArMA's building be dropped.

15. **Lawrence-Leiter Recommendation (page 31-D)**

Provide shared purchasing of supplies and equipment.

**Executive Committee Recommendation**

Due to ArMA's recent experience with the WPPA, the Executive Committee would recommend that this idea not be pursued.

16. **Lawrence-Leiter Recommendation (page 31-E)**

Provide economic assistance to members, etc.

**Executive Committee Recommendation**

Via practice management programs for new physicians, as well as through ongoing Medical Economics seminars on real estate investments, computer planning, etc., the Executive Committee feels this is already being done. Although these programs, thus far, have been valuable to a small portion of our members and have not produced significant revenue over expenses, the Committee would recommend we continue as we have been doing.

17. **Lawrence-Leiter Recommendation (page 31-F)**

Print a membership directory, selling advertising in it.

**Executive Committee Recommendation**

Executive Committee feels a membership directory would be duplicative of our present arrangement with BOMEX and has severe ethical considerations. For those reasons, the Executive Committee recommends this idea not be pursued.

18. **Lawrence-Leiter Recommendation (page 31-G)**

Provide collection services.

**Executive Committee Recommendation**

This idea has previously been explored by the Medical Economics Committee and was rejected as competitive with MCMS; therefore, the Executive Committee recommends the idea not be pursued.

19. **Lawrence-Leiter Recommendation (page 31-H)**

A charge card program for physicians' offices.

**Executive Committee Recommendation**

This was viewed by the Committee as having merit, in that it has been done in other areas. The Texas Medical Association has just recently started a statewide program and will shortly be providing the Executive Director with background information. Once that information is received, as well as obtaining experience elsewhere, the Executive Committee would recommend that this be referred to the Finance Committee for its review.

20. **Lawrence-Leiter Recommendation (page 32-A)**

Training and placement of office personnel.

**Executive Committee Recommendation**

This takes considerable space and staff; is being done by MCMS and a number of other reputable schools; and would take considerable investment of funds, with marginal return and a lot of risk. In light of all these factors, the Executive Committee recommends that this idea not be pursued.

21. **Lawrence-Leiter Recommendation (page 32-B)**

Computer seminars and services, etc.

**Executive Committee Recommendation**

The seminar portion of this is already underway. With the boom in mini-computers the trend is for in-office computers and away from remote computer services; however, the Executive Committee recommends that this matter be referred to the Finance Committee for its review.

22. **Lawrence-Leiter Recommendation (page 34-A)**

Implement long-range planning.

**Executive Committee Recommendation**

Since this matter will be before the House of Delegates in May to consider the creation of a standing committee on long range planning and the present goals and objectives of the Association are being spoken to on an ongoing basis, the Executive Committee recommends that we continue with present policy.

23. **Lawrence-Leiter Recommendation (page 34-B)**

Develop membership.

**Executive Committee Recommendation**

This is a vital, ongoing activity that is, by our bylaws, the responsibility of the county medical societies. However, the Committee discussed at great length recent discussions the Executive Director has had with a Mr. Carl G. Gustafson of Minneapolis, who will be moving to the Valley in October. Mr. Gustafson, a man with many years of service to medicine and a highly qualified and respected individual, has indicated a willingness to work for ArMA, in conjunction with the county societies, two or three days a week to perform one-on-one membership recruitment. It is the consensus of this Committee that this idea would be w
further discussion between
Gustafson and Mr. Robinson
determine cost, etc. and the Comm
has authorized the Executive Direct
proceed along these lines.

24. **Lawrence-Leiter Recommend**
**(page 35-A)**

Improve public relations.

**Executive Committee Recommend**

While this is certainly a
concern of ArMA, the Execu
Committee feels that countless th
are now being done to accomplish
and that it has as high a priority as
budget will allow; and no fu
recommendation is made at this ti

25. **Lawrence-Leiter Recommend**
**(page 35-B)**

Develop smooth relations wit
medical school.

**Executive Committee Recommend**

The Committee does not know
basis for this recommendat
Compared to experience in other st
we have exceedingly smooth relat
with the medical school; and as lon
we have outstanding men like D
Kettel at the school and understan
people in the ArMA leadership, t
relationships should continue; th
fore, the Executive Committee make
recommendation with regard to
item.

26. **Lawrence-Leiter Recommenda**
**(page 35-C)**

Contingency planning regar
the medically indigent legislation.

**Executive Committee Recommenda**

With the large number of ph
cians involved in the development o
rules and regulations for this bill;
oversight committee which is alrea
place within our Governmental Serv
Committee; and the fact that we h
good relations with DHS staff and st
ready, willing, and able to perform
watchdog role recommended,
Executive Committee recommends
that we continue our activities an
ready to be medicine's spokesman.

In addition to the foregoing,
Executive Committee considere
recommendation which was not
actual part of the report—a chang
policy regarding mailing labels. ArM
present policy is to be very selectiv
whom we sell our mailing lab
releasing them to only those wishin
send out announcements regar
medical meetings. Relaxation of
policy to allow the sale of labels u
request to commercially-orien
organizations could be a potent
significant revenue producer.
Executive Committee refers this ma
to the Board of Directors for review
consideration, without recomme
ation.

the March 27 Board of Directors ting the recommendations of the essional Committee on Dyslexia referred to this Committee. The er will be brought back to this mittee at a future meeting when ments from legal counsel have been ived.

ne Professional Committee referred recommendations on subject of ne physicians" to this committee. se recommendations refer to cting physicians and other health iders from lawsuits resulting from r agreement to treat injuries ained by young athletes and the role A should assume in apprising its nbers of the risk currently involved. as moved and carried that Thomas P. rster, M.D., Chairman of the Section thletic Medicine of the Professional nmittee, ArMA's legal counsel and a esentative of Mutual Insurance npany of Arizona be invited to attend uture meeting of the Executive nmittee to more fully discuss the ect of "game physicians," their tment of sports injuries and the laws icable thereto.

was moved and carried that the lelines for use of the contingency l established for the Executive nmittee are as follows: 1) The posal must be health related and not onflict with ArMA; 2) There shall be a of $2,000 per year, which shall be ewed annually by the Finance nmittee; 3) Any amount not allocated n the Contingency Fund shall revert k to the General Fund; and 4) Any ounts allocated from the Con- ency Fund must be passed on by a ority vote of the Executive nmittee.

## SCIENTIFIC ASSEMBLY SUBCOMMITTEE

ne subcommittee of the Scientific embly Committee met on April 28, . The purpose of this subcommittee select topics and chairmen for the rrent Perspectives" series of rams.

ne 1982-83 schedule for the "Current pective" programs to be held from to 5:00 p.m. throughout the year is llows:

Wednesday, October 20, 1982
Saturday, November 20, 1982
Saturday, December 18, 1982
Wednesday, January 19, 1983
Wednesday, February 16, 1983
Wednesday, March 16, 1983
ursday, May 19, 1983 (in conjunc-
on with the House of Delegates
meeting in Tucson).

The subcommittee developed seven specific topics, noting on some various aspects which might be encompassed in the presentations; and selected possible chairmen, all of which is set forth as follows:

Date: Wednesday, October 20, 1982.
Topic: Exercise and physical fitness for the athlete and "week-end warrior."
Suggested areas to be covered: Addressing other than the athlete—the average man of of 45—what he should or should not do; common sports injuries; exercise—what happens when one begins; how valuable is exercise in preventing disease.
Chairman: Stuart I Holtzman, M.D.
Date: Saturday, November 20, 1982.
Topic: Obesity, Diet, Nutrition and Disease.
Suggested areas to be covered: Vitamins-minerals—what we need and don't need; what is and isn't known; where knowledge ends and quackery begins; stomach stapling.
Chairman: Jerome H. Targovnik, M.D.
Date: Saturday, December 18, 1982.
Topic: Medical and Surgical Management of Coronary Artery Disease.
Suggested Areas to be Covered: New medical techniques; diagnostic indications for surgery; 1982 State-of-the-Art.
Chairman: Kenneth L. Raessler, M.D., Frank I. Marcus, M.D.
Date: Wednesday, January 19, 1983.
Topic: Newer Imaging Techniques.
Suggested Areas to be Covered: Latest techniques and what is envisioned for the future; utlrasonograph; CAT scanning; ECHO; nuclear isotope.
Chairman: M. Herbert Nathan, M.D., Alex Newman, M.D.
Date: Wednesday, February 16, 1983.
Topic: Dilemmas of a Teenager.
Chairman: George D. Comerci, M.D., Luis S. Tan, M.D.
Date: Wednesday, March 16, 1983.
Topic: Newer Aspects of VD.
Suggested Areas to be Covered: Herpes; homosexual transmission; drug resistant.
Chairman: John V. Kelly, M.D., Joseph W. Hanss, Jr., M.D.
Date: Thursday, May 19, 1983.
Topic: Drug & Alcohol Abuse.
Suggestd Areas to be Covered: Scope of problem; drugs most currently abused; medical aspects of management; recognition; rehabilitation.

The committee determined that upon confirmation of a chairman, the physician asked to serve for the titled program on the scheduled date, should begin to outline his presentation and select speakers to participate. It was also agreed, however, that each chairman should be made aware of the June 19 meeting to be held with representatives of various pharmaceutical companies to seek their assistance, either financial or otherwise, for the "Current Perspectives" series, in the event the chairman wished to await the outcome of that meeting before proceeding.

The meeting between members of the committee and representatives of various pharmaceutical companies will be held on Saturday, June 19, 1982, at 11 a.m.

## *Future Medical Meetings*

The following institutions and organizations have been accredited for their continuing medical education programs by the Arizona Medical Association and/or the Accreditation Council for Continuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Heart Institute
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona
Lung Association
Walter O. Boswell Memorial Hospital
Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center
of Northern Arizona
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoenix
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program,
(THMEP) Tucson
University of Arizona College of Medicine,
Tucson
Veterans Administration Medical
Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

## JUNE

**Advanced Cardiac Life Support Recertification/Provider Course**
June 10-12. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affilate Amer. Heart Assoc., ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Rd., Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Arthritis: Today's Progress, Tomorrow's Changes**
June 18 and 19. Arizona Biltmore, Phoenix. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, 525 N. 18th St., Phoenix, Arizona 85006. Approved for 12 hours of Category 1 credit.

**Desert Samaritan Hospital—Hawaiian CME Meeting**
June 19-26. Kauai, Hawaii. Sponsor: Desert Samaritan Hospital. Contact: Office of CME, Betty Wood, Desert Samaritan Hospital 1400 S. Dobson Road, Mesa, Arizona 85202. Approved for 20 hours of Category 1 credit.

## JULY

**18th Annual Coconino County Medical Society Summer Medical Seminar**
July 30 and 31. Little America Motor Hotel, Flagstaff, Arizona. Sponsor: Arizona Medical Assoc. & Coconino County Medical Society. Contact: Lana L. Holstein, M.D., P.O. Box 392, Flagstaff, Arizona 86002. Approved for 13 hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider Course**
July 13-15. Arizona Medical Association Office, Phoenix, Arizona. Sponsor: ACLS, AZ Affilate of the Amer. Heart Assoc., ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

## AUGUST

**Advanced Cardiac Life Support Recertification/Provider**
August 12-14. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc. & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Critical Care: Back to Basics**
August 14. Alamos Resort Hotel, Scottsdale. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, Phoenix, Arizona 85006.

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### SUMMER CME CRUISE CONFERENCES ON LEGAL-MEDICAL ISSUES

Ten day Caribbean cruise departs July 28, 1982 visiting five picturesque islands. Fourteen day Mediterranean cruise departs August 21, 1982 visiting Italy, Greece, Egypt, Israel, Turkey, Yugoslavia. Seminars led by distinguished professors. Approved for 24 CME Cat. 1 credits. Excellent Fly/Cruise group fares on finest ships. Both conferences, scheduled prior to 12/13/80, conform to IRS tax deductibility requirements under 1976 Tax Reform Act. Registration limited. For color brouchres contact:

**INTERNATIONAL CONFERENCES**
**189 Lodge Avenue**
**Huntington Station, N.Y. 11746**
**PHONE (516) 549-0869**

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## SEPTEMBER

**Advanced Cardiac Life Support**
September 15-17. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, AZ Affiliate Amer. Heart Assoc. & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

## OCTOBER

**The Under-Achieving Child Behavorable Health**
October 8. The Registry Resort, Scottsdale. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital Medical Center. Approved for hour per hour Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
October 12-14. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, AZ Affilate Amer. Hospital Assoc. & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Fourth Annual Seeing Our Way Clear**
October 23. Arizona Biltmore, Phoenix. Sponsor: St. Luke's Hospital and Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital and Medical Center, Phoenix, Arizona 85006. Approved for hour per hour Category 1 credit.

## NOVEMBER

**Advanced Cardiac Life Support Recertification/Provider**
November 10-12. Arizona Me Association Offices, Phoenix. Spo ACLS, Az Affilate Amer. Heart Asso ArMA. Contact: Beverly Richter, Ar Medical Association, 810 West Be Home Road, Phoenix, Arizona 8 Provider course approved for 21 hou Category 1 credit and Recertific approved for 13 hours.

**XXX Annual Convention of the Medical Society of the United States and Mexico**
November 10-13. Guanajuato, Me Sponsor: Medical Society of the U States and Mexico. Contact: Exec Secretary, 3161 North Pantano F Tucson, Arizona 85715.

**Urologic-Radiologic Diagnosis II**
November 19-21. Scottsdale, Ariz Sponsor: Maricopa County General Hos Contact: Alex Newman, M.D., Lec Tamsky, M.D. Maricopa County Ge Hospital, 2601 West Roosevelt, Pho Arizona 85008. Approved for hour per Category 1 credit.

## 1983

**Fifth Annual International Cataract Surgery Symposium**
February 15-16, 1983. The Alamos Re Scottsdale, Arizona. Sponsor and Cor The Eye Foundation, 525 N. 18th Street 504, Phoenix, Arizona 85006.

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doc Hospital, 5:45 p.m. J. South Classro Sponsor: Shrine Medics. Contact: Robe Briggs, M.D., 5121 N. Central Ave., Phoe AZ 85012.

**Office Psychiatry for the Primary Provider**
2nd Monday of month, 4811 N. 7th St Phoenix, AZ. Sponsor: Arizona Health F Contact: T.R. Bittker, M.D., Box 5 Phoenix, AZ 85010. Approved for Catego credit.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Pho Psychiatric Council. Contact: James Campbell, M.D., 5051 N. 34th St., Phoenix 85018. Approved for 2 hours Catego credit.

**Monthly Meeting of Tucson Radiologist**
Last Tues. of month. Plaza Internatio Tucson, AZ. Sponsor: U of A Medical Cer Dept. of Radiology. Contact: Irwin Freundlich, M.D., U of A Health Scier Center, Dept. of Radiology, Tucson, 85724. Approved for 2 hours Categor credit.

**tric Grand Rounds**
day 7:30-8:30 a.m in Phoenix: 1st
—Phoenix Indian Hospital, 2nd Tues.—
opa County Hospital, 3rd Tues.—Good
ritan Hospital, 4th Tues.—St. Joseph's
ital. Sponsor: Maricopa County
ital (Phoenix Hospital's Affiliated
atric Program). Contact: J.. Kipp
ton, M.D., 2601 E. Roosevelt, Phoenix,
5008. Approved for 1 hour per session
gory 1 credit.

**w of Forensic Pathology**
**nt Case, Special Topics**
sday, weekly, 11 a.m., 120 S. 6th Ave.,
nix, AZ. Sponsor: Arizona Society of
logists. Contact: H.H. Karnitschnig,
120 S. 6th Ave., Phoenix, AZ. Approved
hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

N. 22nd St., Phoenix, P.O. Box 10,000,
nix, AZ 85064. Contact: Ravi Koopot,

**al Conference**
**ovascular Medicine**
Tues., 5:15 p.m., second floor
oom

## ARIZONA STATE HOSPITAL

E. Van Buren, Phoenix, AZ. 85008.
act: Arnold L. Kendall, M.D.
**. Psychiatric Grand Rounds**
Wed., 1:00-2:00 p.m., J-6 Conf. Rm.,
act: Dr. Conger & Staff
**al-Pathological Conference**
Ved., 1:30-2:30 p.m. General Services
Conf. Rm.
**cal Grand Rounds**
ed., 1:00-2:00 p.m., Medical Bldg. Conf.

## ARROW NEUROLOGICAL INSTITUTE

**cal Education**
w Neurological Institute of St. Joseph's
tal and Medical Center, 350 W. Thomas
hoenix, AZ 85013. Sponsor: St Joseph's
tal & Medical Center. Contact: John R.
, M.D. Approved for 1 hour Category 1
.

**logy Teaching Conference**
days, 8:30-9:30 a.m., Eighth Floor Conf.
.

**osurgical Morbidity Conference**
esdays, 8:15-9:15 a.m., on first and third
fth, Eighth Floor Conference Room.
**o-ophthalmology Conference**
ays, 7:30 a.m. in 8th floor neurology
rence room.
**l Injury Conference**
esdays, 8:15-9:15 a.m., on second and
weeks, in Neuropathology Conf.
-a multidisciplinary review of admission
eurosurgeons, orthopedists, and
ilitation specialists.
**opathology of Gross**
**mens Conference**
day, 7:30-8:30 a.m. in the Morgue.
**logy-Neurosurgical**
ys, 8-9 a.m., First Floor Conference Rm.
**opathology or**
**oradiology Conferences**
y, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conference Rm.

**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference Rm.

**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, ED.D., Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, July, Sept. & Nov.

**Tumor Board**
Last Thursday of the month, 12 Noon, Educ. Center Classroom I & II, May, July, Sept, & Nov.

**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: T. F. Reid, Jr., M.D.

**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for Category 1 credit.

**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West End.

**Clinical Conference — Dept. of Medicine**
Weekly, Thurs., 12:30-1:30 p.m. Buffet Lunch, Grande Rm.

**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.

**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2

## DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.

**Physicians Continuing Education Program**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Sept. and December) Contact: R. Grossman, M.D

**Surgical Department Meeting**
3rd Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.

**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.

**Clinical Conferences**
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.

**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf. Rm.

**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf. Rm.

## GOOD SAMARITAN HOSPITAL

1033 East McDowell Rd., Phoenix, AZ Contact: W. J. Howard, M.D. Approved for Category 1 credit.

**Anatomical Path. & Cytology**
Weekly, Mondays 4:00-5:00 p.m., S-4 Conf Rm.

**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., West Rm

**Monday Noon Conference**
Weekly, Monday, 12:00-1:00 p.m. R-2 Conf. Rm.

**Mortality/Morbidity, Surgery Comm.**
2nd Monday, 11:30-2:00 p.m., West Rm.

**Obstetrical Section Conference**
1st Monday, 12:30-1:30 p.m., West Rm.

**Pulmonary Disease Grand Rounds**
Weekly, Monday, 12:00-1:00 p.m., D-5 North

**Family Practice Conference**
Weekly, Tuesday, 12:00-1:00 p.m., Fam. Practice Conf. Rm.

**Pediatric Grand Rounds**
3rd. Tuesday, 7:30-8:30 a.m., Contact: Paul Bergeson, M.D.

**Phoenix Plastic Surgery Residency Conference**
Weekly, Tuesday, 5 p.m.-6 p.m., Education Building, Contact: Robert McGregor, M.D.

**PM & R Noon Inservice**
2nd & 4th Tuesday, 12 Noon, R-2 Conference Rm.

**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., West Rm, Contact: John A. Bruner, M.D.

**Combined Cardiovascular & Family Practice Conf.**
Ist, 2nd, & 4th Wed., 12:00-1:00 p.m., D-5 North.

**Learning Disabilities**
Weekly, Wednesday, 10:30-12:30 p.m., R-2 Conf. Rm.

**OBGYN Dept. Review & Statistics**
Weekly, Wednesday, 12:30-1:00 p.m., OBGYN Conf. Rm.

**Gynecological Pathology**
Weekly, Thursday, 1:00-2:00 p.m., S-4 Conf. Rm.

**GI Radiology Conference**
1st Thursday, 12:00-1:00 p.m., F151, Radiology Conf. Rm.

**Phoenix Ultrasound Soc. Meeting.**
2nd Thursday, Medical Education Building, Contact: Dr. Ben Ora

**Neurology Grand Rounds**
Weekly, Thursday, 9:00-10:00 a.m., D-5 North.

**Surgical Grand Rounds**
Weekly, Thursday, 7:00-8:30 a.m., Education Building, Contact: Dr. Gilsdorf

**Tumor Treatment Planning Conf.**
2nd & 4th Thursdays, 12:00-1:00 p.m., F151 Radiology

**Joint Tumor GYN Conference**
2nd Friday, 12:30-1:30 p.m., West Rm.

**Medical Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., West Rm.

**Neuropathy Conference**
Last Friday, 1:15-2:15 p.m., S-4 Morgue.
**Psychiatry Grand Rounds**
Weekly, Friday, 11:30-1:00 p.m., East Rm.

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.
**Medical Conference**
Weekly, Monday, 12:30 p.m., Contact: Chief Medical Resident.
**Surgical Connference**
Weekly, Monday, Contact: R. Fischer, M.D.
**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.m., Contact: J Wurzel, M.D.
**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.
**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chief Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.
**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.
**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.
**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.
**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz Room
**Obstetrical Problem Conference**
Weekly, Tuesday, 7:30 a.m., Yavapai Rm.
**Orthopedic Conference**
Weekly, Tuesday, 7:30 a.m., Santa Cruz Rm.
**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.
**Urology Discharge Planning Conference**
Weekly, Tuesday, 11:30 a.m., Station 42
**Hand Surgery Conference**
Weekly, Wednesday, 7:30 a.m., Santa Cruz Rm.
**Neurosurgery Discharge Planning**
Weekly, Wed., 1:30 p.m., Station 42.
**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.
**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental Health Annex, Rm. 1346.
**Surgery Conference**
Weekly, Wed., 7-8 a.m., Surgical Dept.
**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.
**Cardiology Conference**
Weekly, Thurs., 2 p.m., Santa Cruz Rm.
**OB/GYN Resident Conference**
Weekly, Thurs., 12 p.m., Yavapai Rm.
**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Rm.
**OB/GYN Surgical Pathology Conf.**
Weekly, Friday, 7:30 a.m., Yavapai Rm.
**Orthopedic X-Ray Conference**
Weekly, Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: E. John Wickman, M.D.
**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015. Contact: J. Burr Ross, M.D., Approved for Category 1 credit.
**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.
**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for Category 1 credit.
**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.
**Clinical Staff Teaching Conference, Rm. A.**
Weekly, Wednesday, 7:30-8:30 a.m.
**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact: N. Wendell Tood, M.D.
**Family Practice/Emergency Room Teaching Conference**
Thursday, Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.
**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.
**Clinical Conferences**
Weekly, Tuesday, 12:30 p.m., Kiva Conference Rm.
**Psychiatric Clinical Conference**
2nd Friday, 11:30 a.m., B-Wing Conf. Rm., Contact: Medical Staff Secretary
**Tumor Board Conference**
Weekly, Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.
**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge
**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge
**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge
**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Loun
**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Loun
**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Loun
**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lou
**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lour
**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lour
**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lour
**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lou
**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lou
**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Loung

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 8
Contact: Joseph C. White, M.D.
**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st
Conf. Rm.
**Genetics Conference**
Weekly, Monday, 12:30 p.m., Pedi
Department.
**Pediatric Rounds**
Weekly, Monday, Wed. & Friday, 10:30
Pediatric Department.
**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J.
Charlton, M.D.
**ECG Conference**
Weekly, Tuesday, 12:30 p.m., Ped
Department.
**Medical Grand Rounds**
Weekly, Wednesday, 8 a.m., 1st Floor
Room.
**Visiting Professor Formal Presentation**
Weekly, Thursday, 8 a.m., PIMC
**Visiting Professor Informal Presentatio**
Weekly, Thursday, 9:30 a.m., 1st floor
Rm.
**Visiting Professor Formal Presentation**
Weekly, Thursday, 12:30 p.m., PIMC
**Nephrology Conference**
Weekly, Fridays, 12:30 p.m., Pedi
Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Co
Eric G. Ramsay, M.D. Approved for Cate
1 credit.
**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact:
Moteforte.
**Ophthalmology Morbidity/Mortality Co**
4th Tuesday, 12:15 p.m., Contact:
Sowards.
**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.
**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Conta
Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

orth 18th Street, Phoenix, AZ, Contact:
d L. Hansbro, M.D.

**ac Conference**
ly, Monday, 12:15 p.m., Auditorium
**Conference**
onday, 12:15 p.m., Phillips Auditorium
**ry Conference**
uesday, 12:15 p.m., Auditorium
**gency Medicine Conference**
ednesday, 12:15 p.m., Auditorium
**ovascular-Thoracic Record Review**
ednesday, 12:15 p.m., Auditorium
**onary Case Conferences**
hursday, 7:30 a.m., Phillips Auditorium
**iatry Conference**
hursday, 7 a.m., Auditorium
**bined Medical General**
**ce Conference**
iday, 12:15 p.m., Auditorium
**ology Grand Rounds**
riday, 7:30 a.m., Auditorium
**halmology Conference**
turday, 8:30 a.m., Auditorium

## ST. MARY'S HOSPITAL & HEALTH CENTER

W. St. Mary's Road, Tucson, AZ 85703.
ct: see below.
**ly Specialty Conference —**
**of Surgery**
Monday, 7:30 a.m., Century Rm. A.,
ct: Med. Staff Office.
**Rounds: Medical Surgical, Family**
**ce, Pathology, Radiology**
y, Thursday
**gency Medicine Lectures**
y, Thursday, 8 a.m., Century Rm. A.
**l Health Update**
iday, 11:30-1:00 p.m., Century Rm. A.
**ology Conference**
y. Friday, 8:00-9:00 a.m., Century Rm.,
ct: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

E. Grant Road, Tucson, AZ 85716.
ct: Eric G. Ramsay, M.D. Approved for
ory 1 credit.
**ology Conference**
ly, Monday, except last, 12 Noon,
ct: M. Maximov, M.D.
**atology Conference**
Monday, 5:00 p.m., Contact: R. Miller,

**crinology Conference**
Monday, 12 p.m., Contact M. Parker,

**atal Conference**
Monday, 7:30 p.m., Contact: J. Lohman,

**cal Dept. Conference**
Monday, 12 Noon: Contact: C. Peter
e, Jr., M.D.
**t Conference**
Tuesday, 12 noon, Contact: William
, M.D.
**atology Conference**
Tuesday, 12 Noon, Contact: M. Boxer,

**Infectious Disease Conference**
3rd Tuesday, 12 noon, Contact: B. Friedman, M.D.

**Nephrology Conference**
2nd Tuesday, 12 noon, Contact: Dr. Seltzer.

**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay Katz, M.D.

**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact: Dr. Lightner.

**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Foote, M.D.

**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.

**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, July, & Oct. Contact: C. Mangelsdorf, M.D.

**Medical Conference**
Weekly, Wednesday, 8:00 a.m., Contact: M. Fuchs, M.D.

**Neurology-Neurosurgery Conference**
Weekly, Wednesday, 12 noon, Contact: H. W. Buschsbaum, M.D.

**Dermatology Conference**
1st Thursday, 12 noon, Contact: R. Friedman, M.D.

**Neuroradiology Conference**
Weekly, Thursday, 5:00 p.m., Contact: N. Komar, M.D.

**Tumor Conference**
Weekly, Thursday, 12 noon, Contact: Cancer Committee.

**Pulmonary/Infectious Disease Case Conference**
2nd Thursday, 7:30 a.m., Contact: William Nevin, M.D.

**G—I Conference**
Weekly, Friday, 12 noon, Contact: George Kerrihard, M.D.

**Interhospital Nuclear Medicine Conference**
Weekly, Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.

**OB/GYN Conference**
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.

**OB/GYN Pathology Conference**
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

**GI X-Ray Clinical Correlation Conf.**
1st & 3rd Monday, 1 p.m., Rm. C435, Contact: Drs. Sanowski, & Nielsen.

**Medical/Surgical GI Conference**
1st & 3rd Monday, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.

**GI Pathology Conf.**
2nd & 4th Monday, 1 p.m., Path Conf. Rm, Contact: Dr. Sanowski..

**Orthopedic Surgery Conference**
2nd Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.

**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 2128, Contact: Dr. Mertz & Dr. Lanard.

**Vascular Conference**
2nd Monday, 3 p.m., Rm. 3134, Contact: Dr. Clintora

**GI Grand Rounds**
Weekly, Tuesday, 1 p.m., Contact: Drs. Sanowski, Kozarek, after GI Grand Rounds Rm T-5.

**Housestaff Pulmonary Disease Teaching Conf.**
Weekly, Wed., 3-4 p.m., Rm. 4115, Contact: Dr. Rohwedder, Ext. 388.

**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habibzedeh

**Medical Surgical Chest Conference**
1st & 3rd Thursday, Contact: Dr. Rohwedder or Dr. Gill.

**GI Consultant Rounds**
1st Thursday, 1:30 p.m., Rm. T-5.

**Medical Service Grand Rounds**
Weekly, Friday, 11 a.m., Rm. T-5, Contact: Dr. Zeller

**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

## PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.

**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

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3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.

**Medical Surgical Chest Conference**
Weekly, Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly, Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Conf.**
Weekly, Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly, Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.

**Radiology Conference**
1st Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Tuesday, 6:30 p.m.

**Pathology Conference**
4th Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for Category 1 credit.

**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.

**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly, Thursday, 4-5 p.m., Room 5403.

**Anesthesiology Case Discussion**
Weekly, Wed., 7:00 a.m., AHSC, Dining Rm. C&D.

**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.

**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center.

**Cardiac Catheterization Conference**
Weekly, Friday, 4:00 p.m., Contact: Dr. Temkin.

**Cardiology Research Conference**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn.

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505. Contact: Jerry Goldstone, M.D., Dept. of Surgery.

**Dermatology Conference**
4th Monday, 5:15 p.m., AHSC, Contact. Dr. R. Friedman.

**Dermatology Rounds**
Weekly, Wed., 11:30 a.m., Contact: Dr. Lynch.

**Endocrinology Seminar**
Weekly, Thursday, 12-1 p.m., Contact: Dr. Johnson.

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contact: Dr. Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus.

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter.

**Head & Neck Tumor Management Conference**
Weekly, Wed., 4:00 p.m., Contact: Dr. Manning.

**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.

**Medical Grand Rounds**
Weekly, Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.

**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contact: Drs. Hughes & Alcorn.

**Neuromuscular Disease Conference**
Weekly, Friday, 11:30 a.m., Contact: Dr. Stern.

**Neuropathology Case Review**
Weekly, Friday, 8:30 a.m., UAHSC, Dr. P. Johnson.

**Neuroradiology Conference**
Weekly, Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson.

**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.

**Neurosciences Seminar**
Weekly, Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford.

**Nuclear Medicine**
Weekly, Thursday, 7:30 a.m., AHSC Radiology Conference Rm.

**OB/GYN Lectures**
Weekly, Friday, 1 p.m., AHSC, Contact: Dr. C.D. Christian.

**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler.

**Ophthalmology Retina Fluoro. Conference**
Weekly, Thursday, 5 p.m., AHSC, Contact: Dr. H. Cross.

**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.

**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.

**Pathology Conference**
Weekly, Monday, 12 noon, AHSC, Contact: Dr. C.D. Christian.

**Pathology Seminar**
Weekly, Friday, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley.

**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.

**Pediatric Grand Rounds**
2nd, 4th & 5th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.

**Pediatric Problem Patient Conference**
Weekly, Wed., 8:00 a.m., Contact: Dr. Lillian Valdes-Cruz.

**Pediatric Research Forum**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Otakar Koldovsky

**Pediatric Specialty Conference**
Weekly, Friday, 8:00 a.m., Contact: Dr. Marilyn Heines & Jane Ruggill.

**Psychiatric Grand Rounds**
Weekly, Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium.

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital.

**Pulmonary Rounds**
Weekly, Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.

**Chest Radiology**
Weekly, Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly, Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly, Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly, Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich.

**Radiology-Rheumatology Conference**
Weekly, Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.

**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact: Dr. Nagle.

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AHSC, Contact: Dr. A. Greensher.

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Wangensteen.

**Joint Thyroid Conference**
1st & 3rd Tuesdays., 1-2:00 p.m., AHSC,
6505, Contact: S. C. Werner, M.D.

**Trauma Conference**
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# The Physician's Sleep Glossary

## Some common sleep laboratory terms

**poly•som•no•graph.** An instrument which simultaneously records by electrodes physiological variables during sleep—for example, brain activity (EEG), eye movements (EOG), muscle tonus (EMG) and other electrophysiological variables. These readings indicate precisely when patients fall asleep, how many wake periods they experience, the quality of sleep and the duration of sleep.

**sleep la•ten•cy.** The period of time measured from "lights out," or bedtime, to the commencement or onset of sleep.

**wake time af•ter sleep on•set.** Intervals of time spent awake between onset of sleep and the end of the sleep period. The polysomnograph registers the length and frequency of the intervals.

**to•tal sleep time.** The amount of time actually spent in sleeping. This is estimated by subtracting wake times from the period encompassed by the onset and the termination of sleep.[1]

**REM/NREM.** 1. REM, or rapid eye movement, sleep is "active"—characterized by increased metabolic rates, elevated temperature and arousal-type EEG patterns. 2. NREM, or non-rapid eye movement, sleep represents "quiet" sleep stages. There are four distinct stages of NREM sleep.[2]

**re•bound in•som•nia.** A statistically significant worsening of sleep compared to baseline on the nights immediately following discontinuation of sleep medication.[3]

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**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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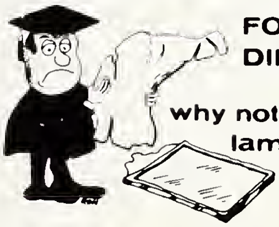

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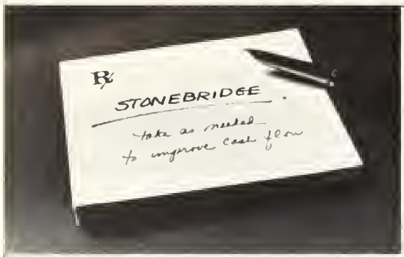

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THE PATIENT THINKS
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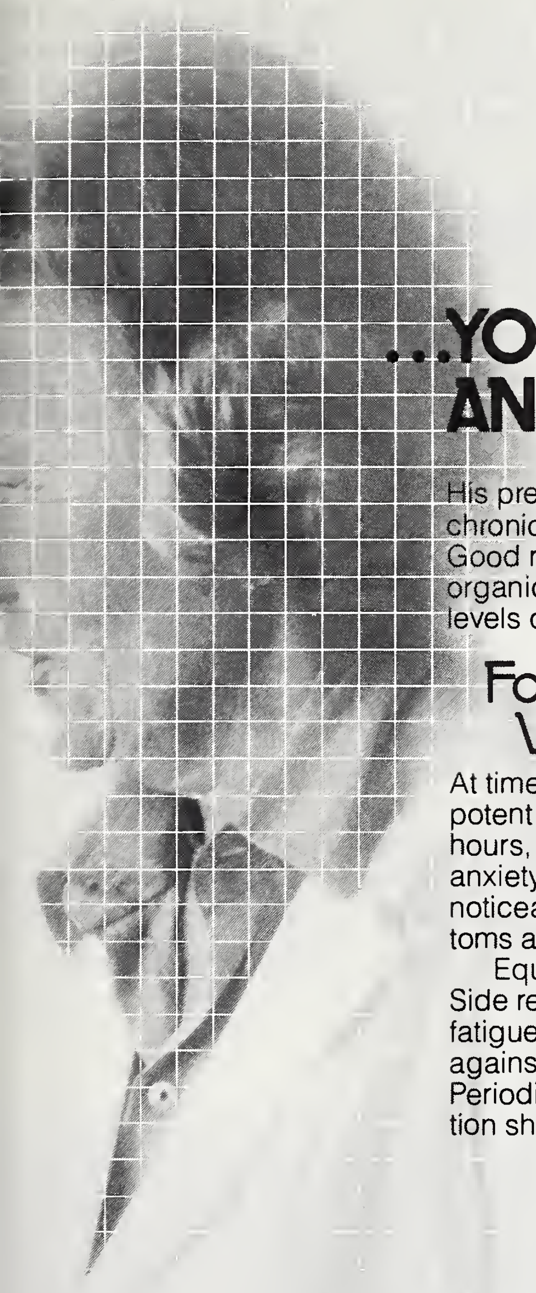

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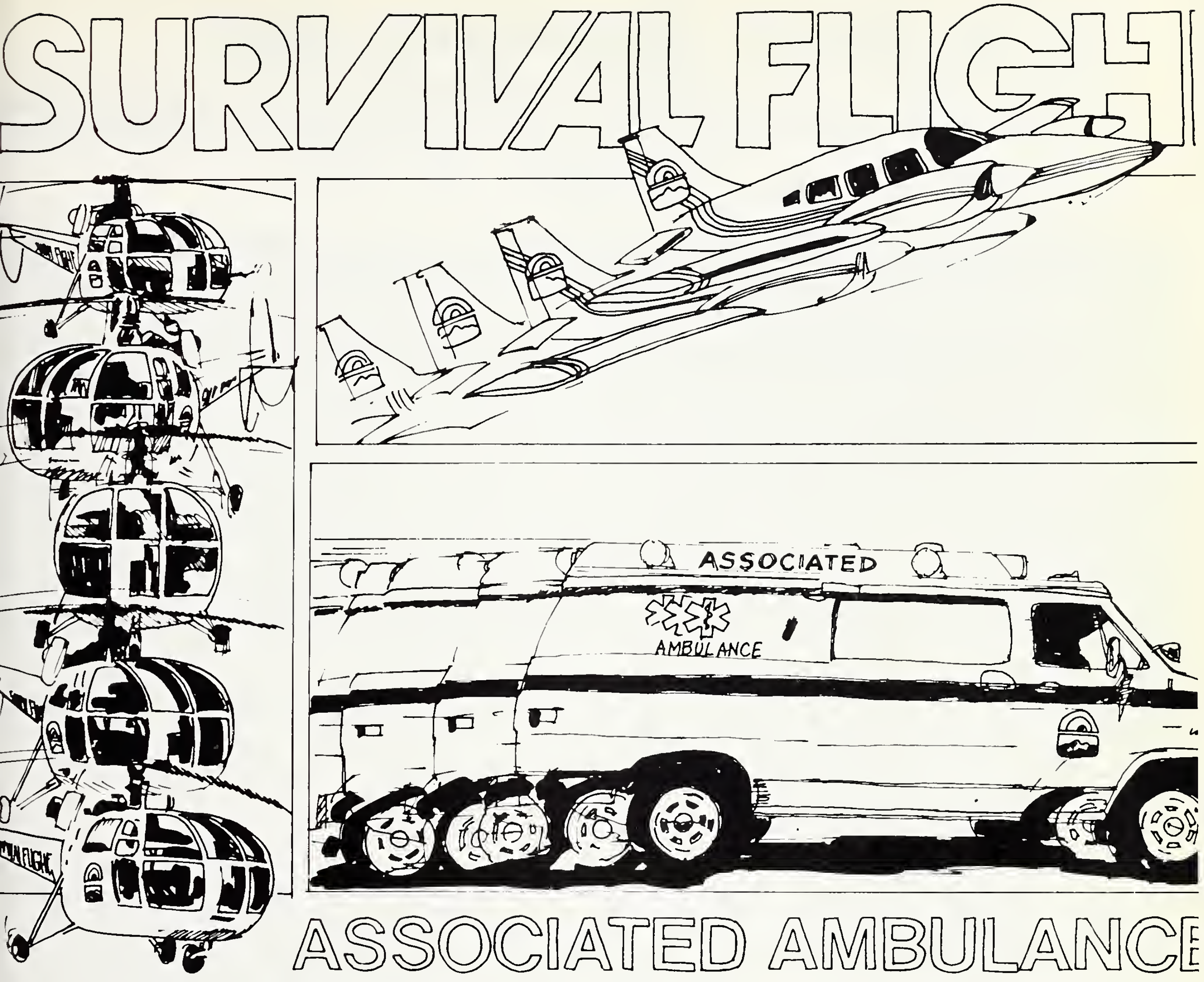

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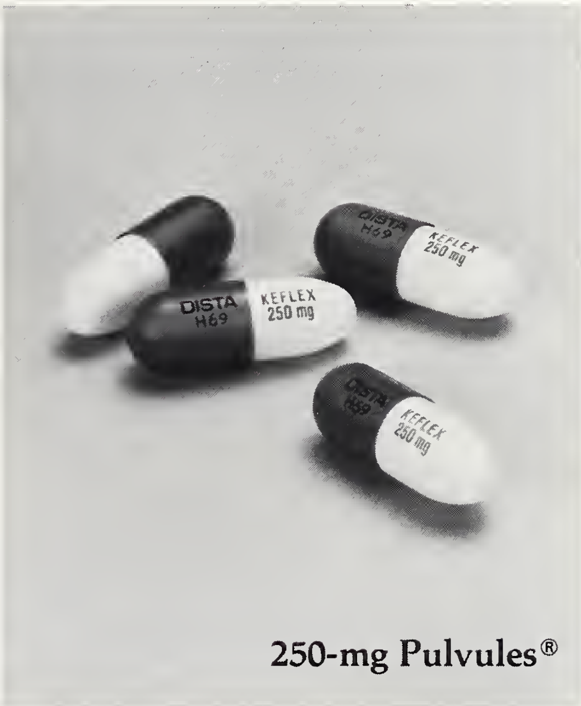

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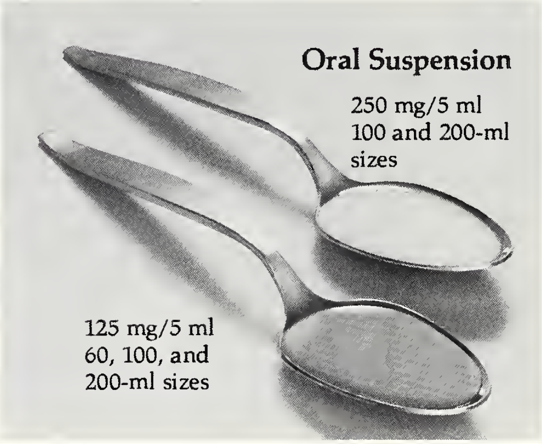

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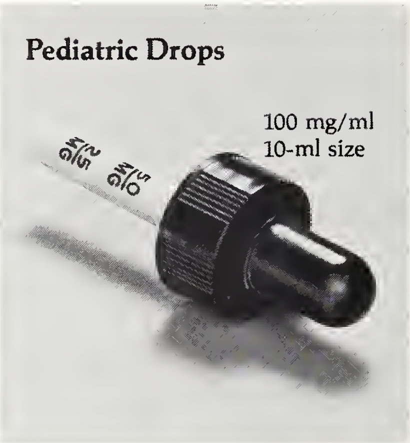

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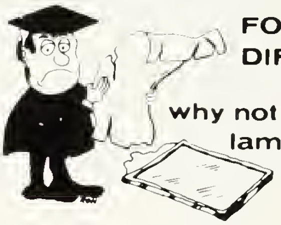

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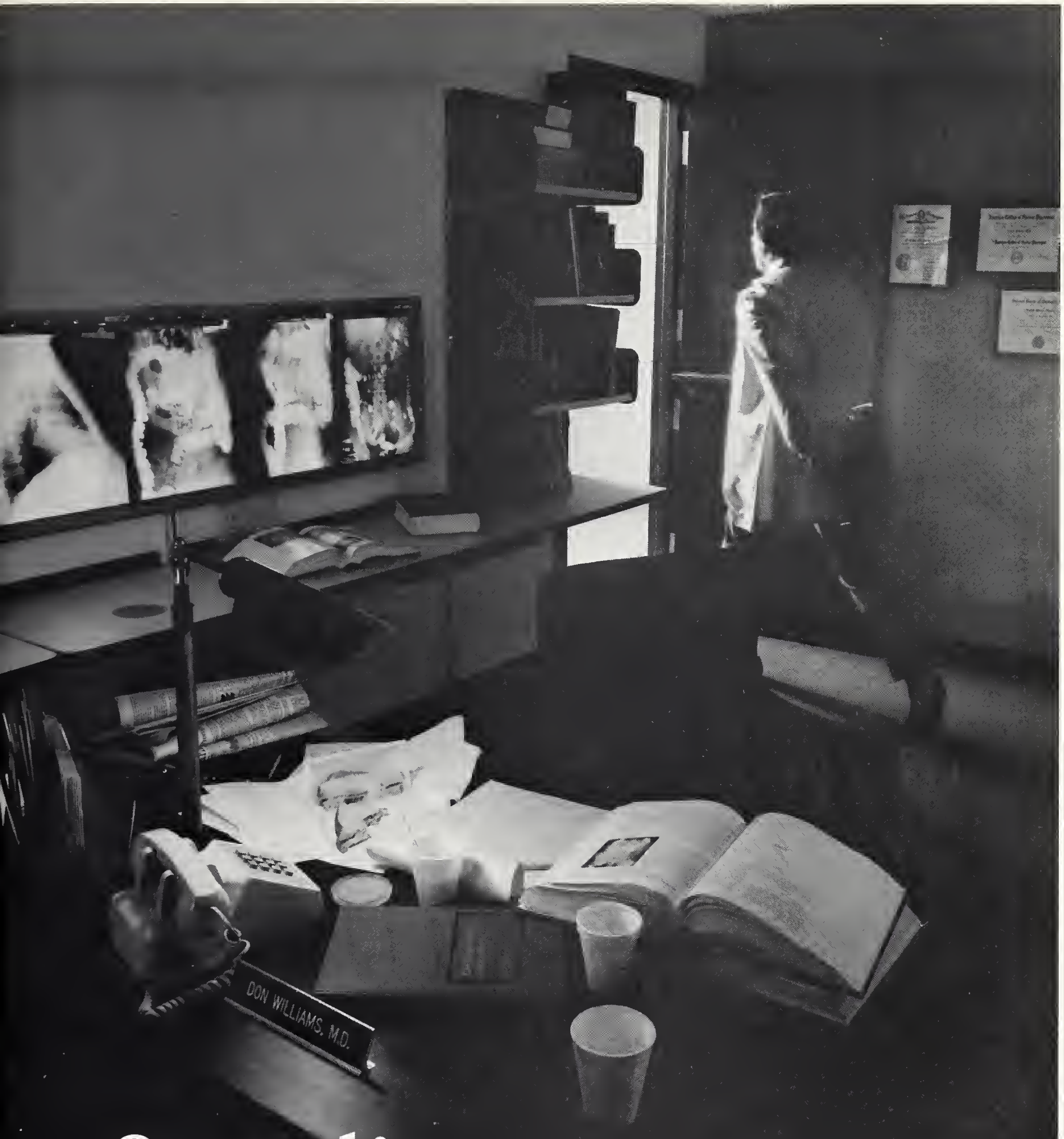

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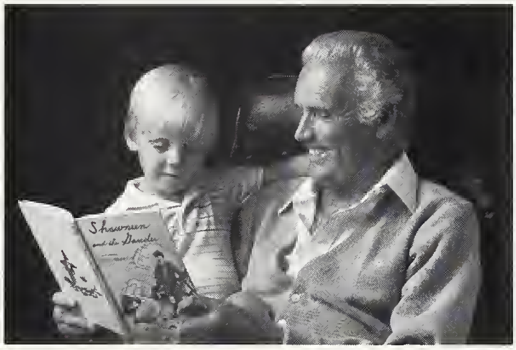

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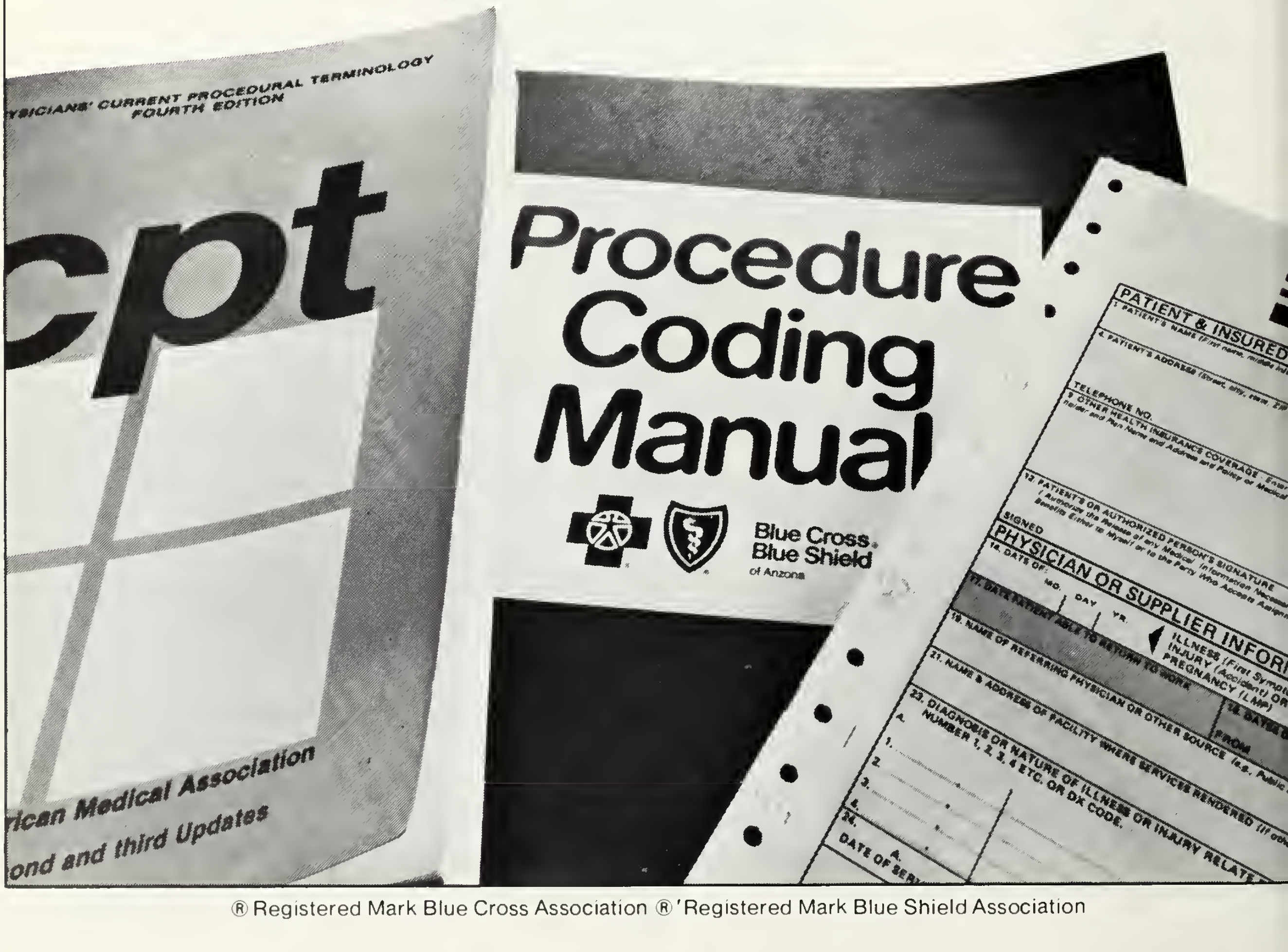

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Cardiology

# omplications Associated ith the use of Pulmonary rtery Catheters

nn W. Duncan, M.D.
vid J. Powner, M.D.

tor:
nneth B. Desser, M.D.

**stract**

ince the introduction of the balloon-tipped, flow-ected pulmonary artery catheter in 1970 by Swan and nz,[1] bedside monitoring of the pulmonary artery and lmonary artery occluded (capillary wedge) pressures, xed venous blood gases, cardiac output, and various culated hemodynamic parameters, has become mmonplace in the care of critically ill patients. One heter manufacturer unofficially has reported the sale 500,000 such catheters in 1981 alone. However, this reased usage has also highlighted new and previously suspected side-effects or complications associated th catheter insertion and utilization. A brief review of se is the purpose of this discussion. The true idence of such untoward events is difficult to termine as most have been reported as case esentations, but where available, complication rates l be listed.

## Insertion

Venous access for insertion of the pulmonary artery catheter is generally done via the subclavian, internal jugular or antecubital vein, and is clearly dependent upon a familiarity with the applicable regional anatomy.[2] The creation of a pneumothorax during cannulation of the subclavian vein has been reported in six percent of such attempts due to the proximity of the underlying lung pleura, while puncture of the subclavian artery occurred in 19%.[3]

Formation of a subclavian arteriovenous fistula, hemothorax, placement of the catheter into the pleural space, catheter and fluid entry into the mediastinum, air embolism, and nerve injury have also been reported as less common events noted in less than two percent of patients.[3] Total complication rates have ranged from 0 to 21% in reported series and appear related to the experience of the physician and to the technique used.[3]

Several techniques have been described[2,4] for cannulation of the internal jugular vein. Pneumothorax appears as a less common complication,[4,5] while injury to the thoracic duct during catheterization of the left internal jugular vein, air embolism,[4] phrenic nerve injury,[6] and Superior Vena Cava syndrome[7] have rarely been noted. Bleeding due to inadvertent puncture of the carotid artery is reported in about ten percent of attempts but usually is easily controlled with local pressure while tenderness over the insertion site occurs in a large percentage of cases.[4] Thrombosis of an internal jugular vein has recently been reported in 66% of patients with pulmonary artery catheter placement via this route and was correlated with the degree of concomitant circulatory failure.[8]

Cannulation of the antecubital vein eliminates the risk of pneumothorax but limits the movements of the patient's arm and has a greater incidence of catheter displacement within the pulmonary artery. Thrombophlebitis, deep venous thrombosis, and local suppurative complications are also common with this location.[9]

## Arrhythmias

Cardiac arrhythmias occur during as many as 75% of catheterizations,[10-12] and are considered to be due to irritation of the endocardial surface by the catheter tip.

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The most common arrhythmias are premature ventricular contractions, while instances of self-limited ventricular tachycardia in 20% of patients, sustained ventricular tachycardia in three percent, and rare ventricular fibrillation have also been noted.[13] Passage of the catheter into the pulmonary artery has resolved most arrhythmias, although deaths related to this complication are reported.[10] EKG abnormalities include right-bundle branch block during passage of the catheter through the right ventricle (5% of patients),[11,13,14] complete heart block in a patient with pre-existing, left-bundle branch block and acute myocardial infarction,[15] simultaneous right-bundle and block of either fasicle of the left-bundle,[16] and right-bundle branch block intermittently during catheter balloon inflation.[14]

## Thrombosis

In situ formation of thrombi around or proximal to a subclavian insertion site has been reported in approximately 1.7% of catheters inserted via this route.[9] Internal jugular[7,17] and antecubital[9] vein thrombi likewise may occur.

A massive and fatal thrombus occurred in a patient with respiratory failure described by Yorra, et al.[18] twelve hours after placement of the catheter. A 5.5 x 1.4 cm thrombus was found at autopsy encasing the distal end of the catheter which occluded the main pulmonary artery. Heparin bonding to the catheter during manufacture has been suggested to reduce such complications.[19]

Pulmonary infarction secondary to local thrombus formation around the catheter is described in two patients by Goodman, et al.[20] in association with areas of roughened endothelium within the pulmonary artery. Infarction has also been described after the catheter has remained in the "wedge" position for prolonged periods,[21] thus demonstrating the need for careful attention to the pulmonary artery wave-form display by nursing personnel and prompt correction of spontaneous or continuing occlusions of the pulmonary artery.

## Infection

As a foreign body in vivo, the catheter may become a nidus of infection from skin flora or via hematogenous spread of organisms from a distant site and subsequently become itself a source of recurrent bacteremia.[9] In Sise's study,[10] cellulitis at the catheter insertion site occurred in 16%, and catheter-related sepsis in 25 of 320 (7.8%) catheterizations. The mean duration of catheterization was significantly longer (107 hours versus 70 hours) in patients who developed cellulitis. Cultures of the catheter tip have been positive from 20% to 28% of catheters in other studies,[21,22] although the significance of this finding is unclear as contamination of the catheter within the subcutaneous tissue tract is possible. Organisms identified from the catheter tip include Staph. epidermidis, diphteroids, pseudomonas, serratia and Staph. aureus.

Applefield, et al.[23] cultured pulmonary arterial blood daily from 57 patients with pulmonary artery lines found that patients with no obvious source for infect had no positive blood cultures provided the cathe was in place for less than 72 hours and was repositio less than three times. Patients with obvious sources infections had a 25% incidence of positive pulmon arterial blood cultures within 72 hours. These auth concluded that catheterization did not promote a h rate of infection if discontinued within 72 hours an the catheter was repositioned less than three times.

## Perforation

One of the most serious complications of pulmon artery catheters is perforation of the pulmonary art with hemorrhage into or around the lung. At le fifteen cases with eight fatalities have been reported. Pulmonary hypertension was present in all but patient, and several patients were on anticoagula Non-fatal arterial ruptures are usually contained by surrounding lung and appear as an infiltrate around catheter tip on chest x-ray. Rosenbaum, et al.[26] cal attention to small amounts of hemoptysis as warn signs of pulmonary artery injury. Management of event includes removal of the catheter, ra determination of the site of bleeding, and surgery.

## Other Complications

Perhaps surprisingly, only occasional reports valvular injury have appeared in the literatu Ettinghausen, et al.[27] report erosions on the arterial s of the tricuspid valve leaflets while withdrawal of catheter with an inflated balloon has resulted in rupt of the chordae tendinae of the tricuspid valve a significant tricuspid regurgitation.[28] Likewi pulmonary valve damage may occur with result pulmonic regurgitation.[29] Sterile thrombotic en cardial vegetations also have been observed in ass iation with catheter positioning.[30]

Knotting of the catheter within the right ventric cavity is a rare complication and is usually associa with introduction of excessive length of the cathe during insertion. Several ingenious techniques recovering the catheter have been reported.[3] Thrombocytopenia apparently due to plate consumption was noted in patients undergoing co nary bypass surgery.

## Conclusion

Pulmonary artery catheters have become a valua tool in managing critically ill patients. Seri complications occur in about three percent of cat terizations.[10] Insertion of the catheter can lead pneumothorax, arrhythmias, hematomas, and embolism. Infection can occur, but it is less frequen the catheter is left in place less than three days a manipulated less than three times. Venous thromb and pulmonary infarction have been reported, as h valvular damage and knotting of the catheter, but most serious complication is pulmonary artery ruptu Hopefully, familiarization with such complications pulmonary artery catheters will allow physicians to them wisely and safely.

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# Editorial Comment

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Given the usual setting in which the Swan-Ganz catheter is inserted, it is surprising that there are not more complications attendent to its use. Passage of these catheters has resulted in a few "non-complications" which can occasionally be misinterpreted by the unwary clinician. Mechanical effects of the catheter can produce hemodynamic changes which result in unusual auscultatory findings. During the past three years we have encountered nine patients who developed striking murmurs as a consequence of the catheter being passed across the tricuspid valve. In such subjects a high frequency systolic murmur has been appreciated at the lower left sternal border. These acoustic events are ascribed to tricuspid insufficiency. In a patient with acute myocardial infarction these noises could be misdiagnosed as septal or papillary muscle rupture. Clues to the true origin of the murmur include: 1) marked respiratory changes with appearance or enhancement of intensity during inspiration and 2) positional alteration of the murmur quality which is attributed to a shift in catheter location within the tricuspid valve. Rarely, loud midsystolic "clicks" or "thuds" have been associated with this catheter. These sounds have been shown by simultaneous phonoechocardiography, to arise as a consequence of the catheter coming into contact with the interventricular septum during mid-systole.

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Medical Genetics

# Part III
# Genetics and Obstetrics

## Alpha-Fetoprotein Screening in Pregnancy— A Test Whose Time Has Come

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**Editors Note: Dr. Haddow and colleagues have a major program for alpha-fetoprotein (AFP) screening in Maine and upper New England, upon which the following paper is based. FH, Editor**

### Abstract

Newborn screening of phenylketonuria (PKU), hypothyroidism and other diseases has come into practice, upgrading neonatal care. The newest analogous develpment is the testing of maternal serum alpha-fetoprotein (MSAFP) in mid-trimester. Our experience in Maine and that of other pilot programs indicate that MSAFP screening should now be considered for inclusion in standard prenatal care. Information necessary to MSAFP screening is presented here in a question-and-answer format, illustrating the need for an organized, coordinated approach to MSAFP testing. We have found this successful in Maine and propose generally the "Alpha-fetoprotein screening is a test whose time has come."

### Introduction

A strong case can be made for incorporating sec
trimester maternal serum alpha-fetoprotein (MS
screening into standard prenatal care, given
extensive documentation of its performance
available.[1-4] Such testing offers the opportunity
identify a variety of high risk pregnancy conditi
Among them are open lesions of the fetal dorsa
ventral surface. Early concerns about misdiagnosis h
been allayed,[5] and women with a broad variety
religious and ethical backgrounds have chosen to h
the test.[6]

Pilot programs in the United States have provi
insights into laboratory and program elements wh
need to be in place before it is safe to offer MS
screening as part of routine prenatal care.[2-4] In m
respects, alpha-fetoprotein testing during the sec
trimester is similar to newborn screening for conditi
such as phenylketonuria (PKU) and hypothyroidi
Both prenatal and newborn screenings require caref
monitored expert laboratory services (prefera
processing sufficient sample numbers to keep c
down and to maintain a high degree of laborat
proficiency), and integrated clinical program servi
which coordinate follow-up activities and prov
prompt information to physicians and patients. W
MSAFP screening, time constraints are sufficie
stringent and follow-up diagnostic procedu
sufficiently complex that clinical program services
even more critical than with newborn screening.[7]

Unlike newborn screening, which is gener
mandated by state governments and carried out in st
laboratories, MSAFP screening is elective, opera
usually on a fee-for-service basis, and is carried out i
variety of settings. Because of the voluntary, n
legislated, decentralized nature of MSAFP screening
physicians planning screening need to acquire b
information on the quality and extent of MSAFP test

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From: The Foundation for Blood Research, P. O. Box 428, Scarborough, Maine 04074. The project upon which this publication is based was performed with partial funding from the Division of Child Health, Bureau of Health, Maine Department of Human Services.

vices being offered. We also need to develop an derstanding of what impact such screening will have our practice and our patients. Active involvement in nning and implementation of MSAFP screening leads igher quality and more reliable services.

he following are questions commonly asked by sicians, we have found, just beginning to provide AFP screening, and the answers help to explain why organized, coordinated approach to screening is so essary.

**o should be offered screening?**

nce screening services are available in a given area, pregnant women should be informed about MSAFP availability prior to 16 weeks gestation. This gives m (the patients) the opportunity to decide whether y wish to avail themselves of the service. Screening is recommended for women who do not seek prenatal e until 21 weeks or more after the last menstrual iod.

**ere does maternal serum alpha-fetoprotein come m?**

FP is analogous to albumin. It is produced by the fetal r and is a major fetal serum protein, ranging in centration between 100 and 300 mg/dL during the ond trimester. Fetal urine contains AFP. This is the al source for the AFP found in amniotic fluid. AFP ches the maternal circulation by two routes: nsamniotic diffusion and transplacental passage.

**lpha-fetoprotein normally present in second tri- ster maternal serum?**

es. In the second midtrimester, AFP levels are mally in the range of 25-100 ng/mL. Nonpregnant lts ordinarily have only one to two ng/mL in their um.

**maternal blood levels of alpha-fetoprotein remain stant throughout pregnancy?**

lo. Levels rise steadily, beginning around the 12th ek after the last menstrual period and peaking at the n week. For this reason considerable effort needs to expended to define normal reference values for each tational week during the second trimester. The mal median serum AFP level rises roughly 15% to 20% h week during that time period.

**en should screening ideally be done?**

etween 16 and 18 weeks gestation is the optimal eal) time. Up to 20 weeks gestation is considered eptable. (Test sensitivity is much lower prior to 16 eks.)

**w important is gestational dating for MSAFP inter- tation?**

ritical. Gestational age is calculated from the first day the last menstrual period and is adequate for erpreting screening results, if a woman is reasonably tain of her dates. Otherwise, ultrasound dating is cessary. Physical examination is unreliable.

**ould MSAFP screening be done if the woman is having niocentesis for some other indication?**

es. MSAFP results, in serum, give added information, n when AFP diagnostic measurements in amniotic fluid are being carried out. MSAFP levels can, at times, help to clarify borderline diagnostic situations and also give insights into other high risk pregnancy conditions. The blood sample must be obtained *prior* to amniocentesis.

**How common are the major fetal defects being screened for by MSAFP testing?**

In the United States, spina bifida and anencephaly each occur at the rate of one per thousand live births. Thus, the combined rate is two per thousand, ranking neural tube defects among the commonest major malformations. There is a lower prevalence in the black population. Open ventral wall defects occur at the rate of between three and four per ten thousand.

**How specific is the screening test for open fetal defects?**

MSAFP is a screening test. It is relatively nonspecific. It is *not* a diagnostic test but rather serves to identify a group of high-risk pregnancies for which further testing is indicated. A positive screening test in no way implies that the pregnancy is destined to end badly.

**Will MSAFP screening detect all open neural tube and ventral wall defects?**

No. Even when the cut-off for defining MSAFP elevation is set reasonably low, the detection rate is approximately 80% for open spina bifida cases, 80% for ventral wall defects, and 90% for anencephaly.

**Will MSAFP screening detect skin covered (closed) defects?**

No. AFP must first leak across exposed membrane surfaces on the fetus into amniotic fluid before it can diffuse into the maternal circulation. About 20% of spina bifida defects are closed.

**Are other pregnancy conditions associated with MSAFP elevations?**

Yes. Placental defects giving rise to feto-maternal hemorrhage will also produce MSAFP elevations. When MSAFP levels are high and follow-up diagnostic studies for open defects are normal, the pregnancy remains at increased risk for low birth weight outcome or spontaneous fetal loss.[8,9] In addition, very high MSAFP levels are commonly found in cases of fetal demise.[10]

**Does MSAFP screening detect twins?**

Yes. The median MSAFP value for twin pregnancies is twice that for singletons,[1] probably because both fetuses are manufacturing full amounts of AFP. Hence, depending on the cut-off used, as many as 50% of twin pregnancies can be identified by ultrasound examinations of women referred for evaluation because of a positive screening test.

**Are any problems associated with low MSAFP values?**

Yes. Most commonly, very low MSAFP values result when pregnancies are assigned a gestational age greater than is the case. Other conditions associated with low values include hydatidiform mole, missed abortion, and nonpregnancy.[11]

**What is an appropriate cut-off level for the MSAFP test?**

Nearly all laboratories have chosen cut-offs ranging between 2.0 and 2.5 Multiples Of the Median (MoM) for each gestational week. This means that between three percent and five percent of women screened will have an initial positive screening result if the laboratory is functioning properly.

**What happens when a patient has a positive MSAFP screening result?**

Although some reassurance can be given to the patient (depending upon the degree of MSAFP elevation), she will need further evaluation. The next step may be repeating the blood test or doing an ultrasound examination. It is important to talk this over with the MSAFP program coordinator prior to speaking with the patient.

**How often is amniocentesis indicated by MSAFP screening?**

Depending upon the cut-off selected for defining MSAFP elevations, between one percent and two percent of screened women will be candidates for amniocentesis, following confirmation of dates and exclusion of twins, fetal demise, and anencephaly by ultrasound.

**How many of these will be associated with fetal defects?**

Assuming that sonography will identify all anencephalic fetuses and cases of fetal demise prior to amniocentesis, a major fetal malformation will be detected (usually open spina bifida or ventral wall defect) in roughly one case out of forty having amniocentesis.

**What diagnostic tests are performed on the amniotic fluid sample?**

The most important measurement is alpha-fetoprotein (AFP). In amniotic fluid, the test sensitivity is high (approximately 99%) and false positives are few (approximately 0.4%).

A second test, gel analysis of acetylcholinesterase, has recently provided significant additional help in confirming a diagnosis of a fetal lesion and in excluding false positives. When a fluid sample is bloodstained, the source of blood must be identified since fetal blood can produce false-positive elevations of AFP.

**Are other amniotic fluid studies done routinely on samples drawn as part of a screening program?**

There is no general agreement about whether chromosome studies should be done. Most programs consider them optional, although advisable, if facilities are available. (We do feel that chromosome studies are best done, if possible).

**If a fetal defect is suspected by amniotic fluid testing, what is the next step?**

Generally, both the primary care physician and the patient wish further confirmation. Specialized ultrasound studies, carried out by a physician experienced in visualizing fetal pathology can often show open spines in cross section or an outline of ventral defects. This is not always possible, however. A second amniocentesis may thus need to be performed to confirm a positive AFP and acetylcholinesterase result.

**How helpful is a second amniocentesis when results in the first sample are positive?**

The major advantage gained by repeat amniocentesis occurs when the first results are thought to be fa positive. This is especially true with fetal bloodstai in which case a second sample obtained ten days the first usually shows normal results. It is extre unlikely that AFP and acetylcholinesterase results w turn negative in the presence of an open lesion. Oft second confirmatory result helps to make physician patient feel more confidence in deciding on a cour action.

**When AFP and acetylcholinesterase both are elevat an amniotic fluid sample, how likely is there to b open fetal defect?**

The likelihood is greater when the individual ha amniocentesis has a greater a *priori* risk, such as oc with a positive screening test or a prior history o affected fetus. For instance, a woman having am centesis primarily for chromosome analysis starts w 1:1000 risk for open spina bifida, and this rises to 4:1 positive amniotic fluid studies. A woman with a pos serum AFP result starts with a 1:26 risk, and this beco 144:1 after positive amniotic fluid AFP and results.[12]

**Decisions concerning continuaton.**

No decisions about continuation are, or should n be made on the basis of serum testing alone. Only sonography and, in most cases, amniocentesis enough information available to diagnose f pathology with confidence and then to decide options exist. At that point, the family needs to weigh pros and cons and to be supported in whichever co of action is chosen. Counseling by the primary physi and genetic counselor should be integrated into screening process in such a way that the pat thoroughly understands and is given the opportunit anticipate the decisions that she may have to make

**Is there any reason to identify fetal defects if termina is not an acceptable choice?**

This is an individual decision, but there are ti which can be productive when preparing for the birt a child with handicaps. The birth itself can be arran so that appropriate support services are at hand, and father may make a choice concerning attendance at delivery, based on the type of defect expected.

The sources for most of the information relatin MSAFP screening and amniotic fluid AFP diagno testing come from two large collaborative stu carried out in the United Kingdom.[1,13] One mi reasonably question whether such information apply in the United States as well, since conditions not totally similar. Drs. Nicholas J. Wald and Howar Cuckle from Oxford, who analyzed the data authored the final reports, presented their results format applicable to a variety of screening conditi including those existing in the United States. Prelimi reports of actual experience in the U.S.A. have all b in agreement with expectations derived from the Uni Kingdom studies, although these remain the comprehensive and reliable sources of informat available at this time.

ı addition to confirming the United Kingdom reports the sensitivity and specificity of MSAFP screening, ited States pilot projects have helped to define nditions which provide optimal service to the ient.[7,14] These include identification and coordin- on of the various disciplines which are necessary to nplete screening successfully: the primary care /sicians, the clinical geneticists, the laboratory, and ultrasonographer. In addition, a screening ordinator who serves as a liaison between the cipline involved and provides educational and nsulting services has been found to be a useful ividal in many screening programs. The coordinator eds to be expertly familiar with the screening process l must have the trust of the community.[15]

ılpha-fetoprotein screening in pregnancy is a test ose time has come.

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## *Nutrition*

# Vitamin E in Premature Infants

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### Introduction

Vitamin E, or tocopherol was first isolated in 1936[1] and although a variety of vitamin E deficiency syndromes have been studied in animals, its role in human pathology has only recently begun to be understood. The most active isomer of the vitamin, alpha-tocopherol, is a fat soluble, methyl-substituted 6-hydroxychroman derivative. Its only known biological action is a tissue antioxidant, trapping free radicals and so preventing lipid peroxidation and cell membrane damage.[2] Tocopherol is consumed in this reaction and excreted as quinone derivatives.

Several observations suggest that vitamin E deficiency states should be more likely to develop in premature infants than in children or adults. The first of these was by Owens and Owens[3] who reported a mean serum tocopherol level in 46 premature infants of .25 mg/dl, less than half the minimum satisfactory level in adults. Premature infants have smaller tissue stores than term infants; infants weighing 3500 grams at birth will have about 20 mg total vitamin E stores while 1000 gram infants will have only 3 mg stores.[4] Rapid growth and low vitamin E levels in commercial formulas can cause depletion of the already small stores. Also, it has been shown that premature infants absorb some forms of dietary vitamin E inefficiently until the equivalent of gestational maturity is reached.[5]

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Premature infants also would be more likely to become deficient in vitamin E if they were subjected to greater oxidant stress. Red blood cells, in infants fed formulas high in polyunsaturated fatty acids (an oxidizable substrate) and ferrous iron (a strong oxidant), have increased susceptibility *in vitro* to peroxide hemolysis, which is corrected by the antioxidant vitamin E.[6] Therapy with high concentrations of oxygen, which is often needed in premature infants, increases the intracellular formation of cytotoxic superoxide anion, and thus increases oxidant stress.[7]

Deficiencies in other tissue antioxidants would place additional demands on vitamin E levels in premature infants. The antioxidant superoxide dismutase is reduced by hyperoxic exposure of immature animal lungs in the presence of plasma or serum. Plasma from premature infants with Respiratory Distress Syndrome (RDS) has been shown to be defective in increasing pulmonary levels of this presumed protective enzyme during hyperoxic therapy.[7] Dietary selenium deficiency and the resulting low levels of the antioxidant glutathione peroxidase in some premature infants have also been shown to increase vitamin E requirements.[8]

Investigations to determine if this relative vitamin E deficiency of premature infants is clinically significant have focused on three main areas: 1) Hemolytic anemia of prematurity; 2) Bronchopulmonary dysplasia; and, 3) Retrolental fibroplasia.

### Hemolytic Anemia

The association between vitamin E deficiency and hemolytic anemia in premature infants was first described clearly in 1967 by Oski and Barness.[9] They described a syndrome in eleven infants six to ten weeks old with birth weights of 1100 to 2000 grams characterized by reticulocytosis, bizarre red cell morphology, thrombocytosis, shortened red cell survival times, increased *in vitro* peroxide hemolysis, and low serum tocopherol levels. After treatment with 200 to 800 mg d-alpha-tocopherol, hemoglobin levels increased from a mean of 7.6 gram/dl to a mean of 9.8 gram/dl, and erythrocyte hemolysis decreased. They also demonstrated that development of this hemolytic anemia could be prevented by daily oral doses of vitamin E begun at three days of age. In a larger study (234 low birth weight infants), infants who received 25 IU/day alpha-tocopherol acetate had significantly higher hemoglobin levels at eight weeks of age than controls.[10] This hemolysis is thought to be caused by peroxidation of erythrocyte membrane lipid components, and red cell fragility has been shown to correspond to decreased erythrocyte phosphatidylethanolamine.[11]

The development of this syndrome has been shown to be dependent not only on insufficient vitamin E but also on dietary iron supplementation. The presence of large quantities of dietary polyunsaturated fatty acids contribute to its development.[5] Because commercial formulas now have a higher ratio of vitamin E to polyunsaturated fatty acids, this type of hemol anemia is now unusual.[12]

### Bronchopulmonary Dysplasia

Bronchopulmonary dysplasia (BPD) was fi described in 1967 by Northway et al. in 32 premat infants who had been treated for severe respirat distress syndrome.[13] They suggested that this chro lung disease resulted from exposing developing lung high concentrations of inspired oxygen. Prolong endotrachael intubation[14] and positive pressure me anical ventilation[15] have also been implicated in pathogenesis.

Pulmonary oxygen toxicity has long been recogni and extensively reviewed.[16] The ability of vitamin E protect against this toxicity was first demonstrated in in 1953.[17] The toxic effect of oxygen on cultured hum neonatal respiratory epithelium has also been show Assuming that oxygen toxicity was of pathogen significance in bronchopulmonary dysplasia, Ehr kranz et al. studied the possible therapeutic effect vitamin E in newborns with respiratory distr syndrome.[19] Forty premature infants, requiring grea than 40% concentration of inspired oxygen, recei either 20 mg/kg of intramuscular vitamin E daily wh the oxygen requirement persisted, or received nothi Birth weight, gestational age, degree of exposure oxygen and ventilatory assistance was not significa different between the two groups in the first ten days. of the 13 control patients requiring supplemen oxygen for longer than 250 hours had radiologic chan compatible with bronchopulmonary dysplasia. Four these six died. All of the nine vitamin E treated patie requiring supplemental oxygen for longer than hours survived, none with radiologic characteristics BPD (p=.046 with Fisher's exact test; two tailed testin This study has been criticized because of its non-blind nature, the failure to match control and experimen groups, and the imprecise method of radiologi diagnosis of BPD.[20] Also, the control group had grea exposure to oxygen, to positive pressure ventilation a to endotracheal continuous distending airway press during the overall hospital course. The differen approached, but did not reach statistical significanc

In an ongoing randomized double blind study further evaluate their preliminary conclusion t vitamin E administration favorably modifies t development of bronchopulmonary dysplas Ehrenkranz et al. have reported 17 vitamin E treated a 14 placebo treated infants with respiratory distres None in either group developed BPD. The decreas incidence of BPD in this control group compared to t control groups in the previous study may be due t change in management which kept the inspiratory pe pressures below 35 cm $H_2O$ compared to a mean about 51 cm $H_2O$ in the first study.

A final conclusion on the efficacy of vitamin E preventing bronchopulmonary dysplasia awaits furth studies of larger numbers of patients.

### inopathy of Prematurity

etinopathy of prematurity (ROP) is a condition ecting the growth of immature retinal blood vessels. It haracterized by vasoconstriction and obliteration of nal arterioles and capillaries, neovascularization and severe stages by scarring, retinal detachment and ndness.

he effect of vitamin E on ROP in humans was first died over thirty years ago by Owens and Owens.[3] The ults were promising, but not definitive because of dequate controls regarding oxygen monitoring. This ly study was largely forgotten when it was realized t avoidance of high concentrations of inspired ygen greatly decreased the incidence of ROP.[22]

Vhen Slater proposed that ROP resulted from oxidant mage by oxygen generated free radicals,[23] the ssible therapeutic benefit of the antioxidant vitamin E s again investigated. Vitamin E has been shown clearly neficial in preventing oxygen induced retinopathy in tens.[24] A preliminary report from an ongoing study of P in humans suggests that vitamin E may be tective.[25] In this study all infants weighing less than 0 grams in the nurseries of the Pennsylvania Hospital Philadelphia were given either placebo or ramuscular dl-alpha-tocopherol at doses to maintain um concentrations of 1.5 mg/dl. ROP was found in 6 treated and 12/17 control infants weighing less than 0 grams (significance $p=.0591$); 3/25 treated and 3/23 ntrol infants weighing 1500 to 2000 grams developed P. Considering all infants less than 2000 grams who veloped ROP, the treated group had less severe ease ($p<.05$), although no infants in either group had ater than grade II disease. In another study of 75 ants weighing less than 2000 grams, no correlation ween vitamin E levels and retinal vascular changes s found.[26] A second phase of the Philadelphia study been reported where the treated group of infants re maintained with higher serum tocopherol levels out 3 mg/dl).[27] Infants in this group received nificantly more adult blood (58 ml/kg versus 29 /kg) and in spite of greater antioxidant protection, y had greater mean severity of retinopathy of ematurity than the earlier treated group. Considering th studies, treated infants had less severe ROP than ntrols ($p<.05$) only in the group that had received 10 /kg or less of adult blood. A third phase of this study is w in progress. It is to include a total of 650 infants in three phases and may clarify these early results.[28]

### xicity

he only side effects reported, following ministration of vitamin E to infants, has been casional irritation at the injection sites.[25] Although agulation problems relating to large doses of vitamin E ve been investigated,[30,32] doses yielding blood levels two to three mg/dl have been shown in one study not effect coagulation in mature infants.[33] In man other ssible toxic effects of large doses of vitamin E include paired wound healing,[34] altered granulocyte phargocytosis[31] and creatinuria.[35]

### Summary

Vitamin E in physiologic doses has been shown to prevent hemolytic anemia of prematurity. The American Academy of Pediatrics Committee on Nutrition recommends that the diet of premature infants contain at least 1 I.U. of vitamin E (0.6 mg of d-$\gamma$-tocopherol) per gram of polyunsaturated fatty acid.[36] In pharmacologic doses, tentative results suggest that vitamin E may help protect premature infants requiring supplemental oxygen from ROP and from BPD. However, further studies are necessary before the precise role of vitamin E in the care of premature infants will be clear.

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*Obstetrics &*
*Gynecology*

# What's New in Female Sterilization?

## The Silicone Tubal Plug Is

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**Abstract**

The technique of the silicone tubal plug is described and the author's experience reviewed. A 95.7% bilateral normal tubal plug rate was achieved if a repeat procedure was offered to those patients (19.2%) who had either an abnormal plug formed (6.8%) or who did not have bilateral plugs inserted (12.4%) on the initial procedure.

There have been many new female sterilizat procedures described since first suggested by Dr. Jar Blundell in London, England about 1824. Dr. R. Fror in 1849 suggested the first transcervical approa Female sterilizations were not commonly done in 19th and early 20th century because of the haza involved with abdominal surgery.

An increased interest on the part of physicians patients in female sterilization procedures followed introduction of the Pomeroy method in the 193 There was not, however, a significant increase in popularity of female sterilizations until the 1950's 1960's. During that time most female sterilizations w done at or near the time of delivery because of the risl a laparotomy.

By the late 1960's it was estimated that 178,000 won were sterilized each year.[1] Female sterilizati accounted, however, for only 20% of all of sterilizations done during that time. By 1979, onl decade later, it was estimated that there were 567, women sterilized each year and that they accounted 53% of all sterilization procedures done.

The initial slow growth of female sterilizations their subsequent rapid increase, to become what is n a major family planning procedure, can be explained two factors. The first was the change in women's rol society. Sterilizations became an important fan planning procedure as family sizes became smaller

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men assumed more obligations outside of the home. e second change that took place was related to dical instrumentation. Laparoscopy provided, for the t time, an interval sterilization procedure that was y, relatively inexpensive, and could be done as an tpatient.

Currently there are five basic operative techniques for nale sterilizations. They are: laparotomy, minilap- otomy, laparoscopy, colpotomy and culdoscopy.

### ablished Types of Female Sterilizations

he laparotomy is still the most common procedure ed. A Pomeroy or other similiar procedure is generally ne at the time of cesarean section or through a small umbilical incision in the immediate postpartum iod. It is seldom used as an interval procedure.

he minilaparotomy is a variation on the theme of arotomy. It is done as an interval procedure using al anesthetic through a small suprapubic incision. The es can be closed by either a Pomeroy type ligation or application of a silicone ring.

aparoscopy is the most common interval method of rilization and accounts for almost 50% of all female rilizations done. Under laparoscopy control the tube either be coagulated with an electrical current, pped or have a silicone band placed around it. Open aroscopy is a variation in which the laparoscope is roduced through a very small incision into the dominal cavity which has been opened under direct on.

Colpotomy and culdoscopic sterilizations have not ned a great popularity. They carry a higher risk of ection than do the other more commonly done cedures.

While all of these procedures are effective and carry h them a high degree of patient acceptance they all uire a surgical incision and destruction of a portion of fallopian tube.

### e New Silicone Tubal Occlusion Procedure

Recently a new female sterilization procedure has come available in ten cities in the United States. It is led the RSP Hysteroscopic Silicone Tubal Occlusion ocedure. It was developed at the Franklin Research nter in Philadelphia, Pennsylvania. In this procedure a all amount of liquid silicone is injected into the opian tubes where it solidifies. The injection is done der direct vision through a hysteroscope. There are contraindications. (Table 1).

### thod

he tubal occlusion procedure is accomplished in an ice setting using a paracervical block for anesthesia. A teroscope is introduced into the uterus and the rine cavity distended with a 32% dextran 70 (Hyskon). e cavity is viewed and the tubal ostium identified. An empt is made to determine patency of the tubes by tching the outflow of Hyskon through the tubal ium. A catheter guide is then placed through the teroscope and inserted into the tubal ostium. On the of this guide is a preformed silicone tip with an ached retrieval loop.

**Table 1**
**Current Contraindications to a Hysteroscopic Tubal Occlusion Procedure**

**Absolute**

1. Pregnancy within 6 months
2. Inability to give informed consent
3. Previous tubal surgery
4. Hypersensitivity to drugs used
5. Patients with neuropsychiatric disorders

**Relative**

1. IUD since last pregnancy*
2. History of significant pelvic infection*
3. Retroflexed uterus

* May require a normal hysterosalpingogram before doing the procedure.

Parallel axis must be achieved prior to the installation of silicone. This refers to the proper alignment of the guide and tubal ostium so that an unobstructed outflow of silicone can pass from the injecting syringe and out through the guide tip into the fallopian tube. This critical test is determined by the nurse assistant when she judges the pressure needed to inject a methylene blue solution prior to the silicone injection. Once parallel axis has been obtained, the nurse assistant adds catalyst to the silicone syringe and mixes it in a precise fashion and within a specific time. The syringe is then placed into the fluid flow acuation system which injects under high pressure the small amount of silicone used. The silicone enters into the fallopian tube and fills approximately two-thirds of it.

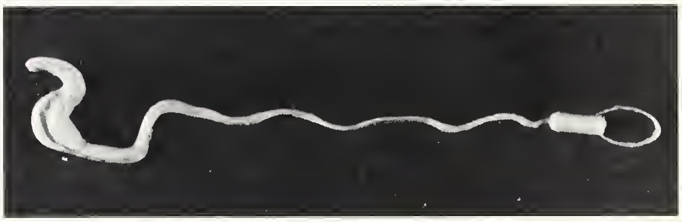

**Figure 1**
**A Silicone Plug removed from a hysterectomy specimen.**

A formed in-place results in which the distal portion, conforming to tubal anatomy, is larger than the narrower intramural part (Figure 1). When hardening of the silicone occurs the narrow intramural portion welds to the larger preformed silicone tip. The catheter guide is then disengaged from the tip and removed leaving a plug in place. The plug will stay in place because it is larger at both ends than in the middle. The procedure is then carried out on the opposite side. The adequacy of the radiopaque plugs is determined by a postoperative x-ray (Figure 2). Patients are requested to continue contraception for three months until a repeat x-ray can be obtained to show that there is no variation in the plugs.

### Materials

From June 1981 through March 1982 the author has performed a hysteroscopic tubal occlusion on 73

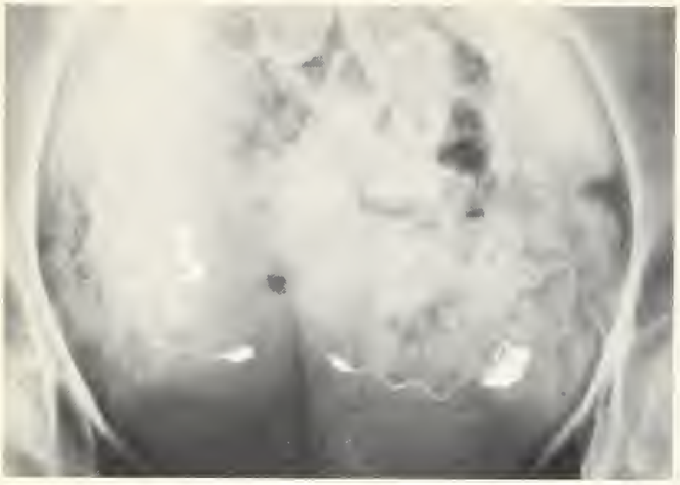

**Figure 2**
**X-ray showing a normal plug.**

patients. Fourteen of these 73 patients have had a second procedure for a total of 87 cases.

Nine of the 14 repeated patients had a second procedure because only a single plug was inserted on the initial attempt. The other five patients were repeated because each had an abnormal plug that needed to be replaced.

Patient acceptance of the procedure has been good. A paracervical block has provided good pain relief. Three of our patients also received 5 mgm diazepan for sedation and 23 received meperidine Hcl 25 mgm IV for further pain relief. All patients are now receiving Naproxin sodium 275 mgm in order to decrease uterine cramping and diminish the potential of tubal spasm. Glucagon 1 mgm has been used with variable results in eight patients in an attempt to break tubal spasm.

**Results**

While the range for the times of the initial procedures have been from 24 to 130 minutes the mean time has been 45 minutes.

Bilateral normal plugs have been inserted into 67 of the 73 patients (91.8%). In order to achieve the 67 bilaterally normal plugs 14 patients (19.2%) required a repeat procedure. Three more patients need, but have not yet had a second procedure. If these three patients are excluded, bilateral normal plugs were achieved in 67 of 70 patients for a rate of 95.7% (Table 2). It was impossible in three patients, even with a second procedure to obtain bilateral normal plugs. One of these patients was proven by laparoscopy and another by hysterosalpingogram to have a blocked tube. The cause of failure in the third has not yet been evaluated.

Bilateral plugs were actually inserted into a higher percentage of patients (Table 2) but some plugs were not normal and had to be replaced. If we had not had six patients with abnormal plug formation, we would have been able to insert, after one procedure, bilateral plugs into 61 of the 73 patients (83.6%). Eleven patients (15.1%) still would have had a unilateral plug and one patient would have had no plugs put in place (Table 3). When a

**Table 2**
**Bilateral Normal Plugs Inserted**

| After One Procedure (73 pts) | After Two Procedures (70 pts)* |
|---|---|
| 56 pts (76.7%) | 67 pts (95.7%) |

*3 pts have not had a second procedure

**Table 3**

| | After One Procedure (73 pts) | After Two Procedures (70 |
|---|---|---|
| Bilaterally | 61 pts (83.6%) | 67 pts (95.7%) |
| Unilaterally | 11 pts (15.1%) | 3 pts ( 4.3%) |
| None | 1 pt ( 1.3%) | —— |

*3 pts have not had a second procedure

**Table 4**
**Causes of Insertion Failures**
**at First Procedure**

| | |
|---|---|
| No parallel axis | |
| Tubal spasm — natural | 6 cases |
| iatrogenic | 1 case |
| Blocked tube | 2 cases |
| Unknown | 1 case |
| Inadequate uterine pressure | 1 case |
| Equipment failure | 1 case |

**Table 5**
**Time of Abnormal Plug Diagnosis**
**and Success in Replacing Them**

| | |
|---|---|
| Abnormal plugs (immediate) | 4 pts. |
| Abnormal plugs (at 3 mo) | 2 pts. |
| Successfully replaced at second procedure | 5 pts |
| Not yet done | 1 pt. |

ond procedure was used in those patients needing it, out of 70 patients or 95.7% had bilateral plugs erted. All of the three patients (4.3%) not achieving ateral plugs were true failures.

**uses for Failing to Insert Normal Plugs.**

Jnlike laparoscopy, in which a sterilization can be aranteed in essentially all patients,[2] a certain number patients with the silicone tubal occlusion procedure not be successfully sterilized. There are two reasons y failure to achieve a sterilization may occur. First is inability to insert a plug and the second is an normal plug formation.

Ve were unable to insert a bilateral plug during the t procedure in 12 of our 73 patients. The causes for se failures are listed in Table 4. The most common use was the inability to obtain parallel axis. This curred in ten patients. Seven patients had a natural ventable tubal spasm and two patients had a blocked e. The one iatrogenic tubal spasm was caused by necessary manipulation of the tube. Natural tubal sms and obstructed tubes are problems which are not v preventable and may always account for failures. cause for the failure in one patient has not yet been ermined. It could be either spasm or blockage.

he failure from inadequate pressure and the uipment failure, like the iatrogenic tubal spasm, relate re to inexperience and should not be a common blem in the future. The loss of intrauterine pressure uld have been prevented with equipment dification. The equipment failure was related to a lost ew in the fluid acuator system.

n six other patients a sterilization was not achieved at first procedure because of the formation of an normal plug (Table 5). Four of these were identified in immediate postinsertion period by the toperative x-ray. Three showed the separation of the from the silicone plug and one had abnormally small al ends. Two patients were identified as having normal plugs at the three months follow-up x-ray. e of these had a unilateral tip missing and the other a bilateral tip missing.

he cause for the abnormal plugs when the tip arated, in our cases, was an error in the amount of cone that was injected into the fallopian tube. This blem is totally preventable and should not occur in ure cases. The one patient with the failure to have al enlargement of the fallopian tubes was our first ient and occurred when too much catalyst was used he silicone. This, too, is preventable.

**mments**

Vhile problems will always occur with this procedure, vould seem that with greater experience and better uipment, a sterilization rate at the time of the first cedure should be accomplished in better than 90% he patients and when a second procedure is used, a ter than 95% success rate should be achievable.

has been recommended that this procedure may vide a reversible method of contraception, since no e is destroyed and there has not yet been any evidence of damage to tubal epithelium. Plugs can be easily removed by hysteroscopically pulling the proximal tip off of the formed plug and flushing the distal protion of the plug into the peritoneal cavity. Reversibility, however, has *not* been proven. If this procedure were proven to be reversible, it should become a major method of family planning.[3] Patients would be able to use this procedure instead of the long term use of birth control pills or intrauterine devices.

While potential reversibility should not be a consideration, many patients prefer the tubal occlusion over other methods in spite of the fact that it is still an experimental procedure. They perceive it as an effective permanent contraceptive technique that does not require an incision and is easily done under local anesthesia in the office. Lack of an incision is especially appealing to many patients.

Before a gynecologist can undertake this procedure special preparation must be made to implement it. An ordinary exam table is not satisfactory. The other supporting materials used requires a room to be set aside for this procedure. The nurse's role is critical and she must be specially trained in order that a team approach can be developed. I am not aware of any gynecological procedure in which there is more dependence on the nurse assistant.

Currently the disadvantage of the procedure is that it requires more of the physician's time than does a laparoscopic sterilization. Before this procedure is commonly done by most gynecologists, it will be necessary to improve the ease of obtaining parallel axis. This problem would allow the catheter guide to be bent more easily to approach the lateral tube.

**Summary**

The silicone tubal occlusion procedure is an acceptable alternative to other currently available sterilization procedures. Although not all patients can be sterilized by this method it will remain popular with patients who do not wish to have a surgical incision.

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*Oncology*

# The Management of Carcinoma of the Ovary

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Ovarian cancer is now the second most common gynecologic malignancy, with more than 18,000 new cases expected each year.[1] However, it continues to carry the worst prognosis of all gynecologic cancers, with approximately 12,000 deaths expected in 1981 from this disease.[1] Epithelial carcinomas of the ovary account for 80% of all malignant ovarian neoplasms and will be the topic of this month's column.

Epithelial ovarian cancer is a disease predominantly of postmenopausal patients with the peak incidence being in the late sixth decade. Unfortunately, two thirds of the patients present with symptoms of advanced dise notably those related to spread of the tumor o peritoneal surfaces. Abdominal bloating, discomf vague gastrointestinal distress, and dyspepsia common presenting symptoms. Since there are specific symptoms of ovarian cancer, one third of patients will have disease confined to the ovary[2] anc asymptomatic, emphasizing the importance of anr gynecologic examination for recognition of this dise

These cancers can mimic any of the linings of female genital tract and their classification is derived this basis (see Table 1). Tumors mimicking the linin the fallopian tube are classified as serous cystade carcinomas; those mimicking the endometri endometrioid; cervical epithelium, mucinous; with additional classifications of mesonephroid (clear c and undifferentiated adenocarcinoma. The ser cystadenocarcinomas are the most common of epithelial ovarian cancers and tend to be more po differentiated and carrying a worse progno However, stage for stage, grade for grade, all epith ovarian cancers carry the same prognosis. The stagin ovarian cancer is shown in Table 2. It should emphasized that retroperitoneal nodal involvem places a patient in Stage III.

Epithelial ovarian cancers are a disease of the en peritoneal cavity. Their major route of spread is al the peritoneal surfaces, and areas that are commo involved are the cul-de-sac, pericolic gutters, phragms, mesenteric and serosal surfaces of the sr and large intestines, and the omentum. The nor drainage of the peritoneal fluid from the perito cavity is in a circular fashion along the right peric gutter and through the right diaphragm, making probability of disease involvement in that area very h

Involvement of retroperitoneal lymph nodes is uncommonly seen. At autopsy, approximately 80% patients will be noted to have nodal involvement.[4] lymphatic spread of ovarian malignancies is not to ignored even when disease is grossly confined to ovary, since as many as 15% of patients will h involvement of either the pelvic or periaortic lyn nodes.[5] The lymphatic drainage of the ovary can either directly to periaortic lymph nodes along infundibulo-pelvic ligaments or through the u ovarian ligament and broad ligament to the pe nodes. Hematogenous spread of ovarian cance extraordinarily rare and seldom is it clinically impor in initial patient management.

## Management of Early Disease

Ovarian cancer is the only gynecologic maligna that is staged surgically. Proper surgical staging of malignancy is critical for proper selection of adju therapy which is required for nearly all patients.

The patient who presents with either unilatera bilateral ovarian tumors that are malignant should ha thorough cytological sampling of the peritoneal ca We recommend pelvic, bilateral pericolic gutter,

---

From: University of Arizona Health Sciences Center, Obstetrics/Gynecology, Tucson, Arizona 85724.

## Table 1
## Frequency of Epithelial Ovarian Cancers

| Type | Percent |
|---|---|
| ous | 50 |
| cinous | 15 |
| ometrioid | 15 |
| onephroid | 5 |
| ifferentiated | 15 |

## Table 2
## International Federation of Gynecology and Obstetrics Stage-Grouping of Primary Carcinoma of the Ovary

| Stage | Description |
|---|---|
| Stage I | Growth limited to the ovaries. |
| Stage IA | Growth limited to one ovary, no ascites.* |
| (i) | No tumor on external surface, capsule intact. |
| (ii) | Tumor present on the external surface, capsule ruptured, or both. |
| Stage IB | Growth limited to both ovaries, no ascites.* |
| (i) | No tumor on the external surface; capsule intact. |
| (ii) | Tumor present on the external surface, capsule ruptured, or both. |
| Stage IC | Tumor either Stage IA or Stage IB plus ascites* or malignant cells in peritoneal washings |
| Stage II | Growth involves one or both ovaries with pelvic extension. |
| Stage IIA | Extension and/or metastases to the uterus and/or tubes. |
| Stage IIB | Extension to other pelvic tissues. |
| Stage IIC | Tumor either Stage IIA or Stage IIB but with ascites present or positive peritoneal washings. |
| Stage III | Growth involves one or both ovaries with intraperitoneal metastases outside the pelvis, positive retroperitoneal nodes, or both. Tumor limited to the true pelvis with histologically proven malignant extension to small bowel or omentum. |
| Stage IV | Growth involves one or both ovaries with distant metastases. If pleural effusion is present, there must be positive cytology to allot a case to Stage IV. Parenchymal liver metastases. |
| Special Category | Unexplored cases that are thought to be ovarian carcinoma. |

*Ascites is peritoneal effusion that in the surgeon's opinion is pathological, clearly exceeds normal amounts, or both.

diaphragmatic cytologies. The subdiaphragmatic ology is easily obtained with a red rubber Robinson eter placed over the dome of the liver. The nitive surgical procedure is total abdominal hyster- omy and bilateral salpingo-oophorectomy for the majority of patients. In addition, surgical staging uires omentectomy. It is paramount that multiple, d intraperitoneal biopsies be performed when there o gross evidence of disease beyond the ovary so a ent may be properly staged. Biopsies of the anterior posterior cul-de-sac, both pericolic gutters, and t diaphragm are suggested. In addition, as noted ve, retroperitoneal involvement of either pelvic or aortic lymph nodes must be ruled out. This requires mpling of both nodal areas.

ne surgical technique of the periaortic lymph node pling consists of a retroperitoneal incision over the t common iliac artery and lower aorta. The anterior caval chain of lymph nodes is then removed utilizing p dissection with hemaclips from the bifurcation of common iliac artery to the second part of the denum. The nodal tissue of psoas muscle to the aorta emoved intact. Identification of the right ureter ing this dissection is critical. The bilateral pelvic ph node sampling is accomplished through an ended incision over the lateral pelvic peritoneum n the round ligament. The anterior and medial chain external iliac lymph nodes is removed from the uinal ligament to the common iliac artery. Complete noval of the lymphatic tissue and obtaining of tissue ween vessels is not necessary. The internal iliac ph nodes are removed anterior to the obturator ve only. Retroperitoneal hemovacs are used terally for postoperative drainage.

*uvant Therapy*

he only patients that require no further therapy after gery are those with borderline lesions (tumors of low ignant potential), and invasive tumors which are very l-differentiated (Broder's Grade 1). Tumors of low ignant potential are those that have no invasion of rian stroma,[6] are well differentiated, and have no re than three cell layers of piling up of epithelium. wever, all of the patients with Stage I Grade 1 invasive nors must have had the thorough surgical staging just cribed to be managed without adjuvant therapy.

atients who fall into either of these two categories o desire further children can be managed conservatively with unilateral salpingo-oophorectomy along with the surgical staging as described. These patients should have total abdominal hysterectomy and removal of the remaining ovary after their family is complete.

All other patients, that is, those who have tumors that are not well differentiated and are not borderline, require adjuvant therapy after completion of surgery for Stage I disease. Patients who have been properly surgically staged and do not have significant intra-abdominal adhesions may be treated with intraperitoneal P-32. A dose of 15 millicuries is given either through an indwelling pediatric feeding tube left in place at the time of surgery or via a peritoneal dialysis catheter placed under local anesthesia. It is important that P-32 be premixed in a least 200 cc of sterile saline.[7] Sterile saline (500 cc) is instilled into the peritoneal cavity followed by Technetium 99m sulfur colloid scanning of the abdominal cavity to assure uniform peritoneal distribution. The P-32 is then instilled followed by an additional 500 cc of normal saline. The patients are then alternately positioned from side to side, head up and head down, for approximately one hour to assure adequate distribution of the P-32.

Patients with significant intra-abdominal adhesions or prior abdominal radiation can not receive P-32. These patients with Stage I disease (properly staged) can be treated with Alkeran orally at 0.2 mg/kg per day for five days monthly for one year. This is then followed by a second-look laparotomy, the technique of which will be described later in this paper.

The exception to the utilization of either P-32 or Alkeran in the management of Stage I epithelial ovarian cancer is in the cases of patients with poorly differentiated Stage IC (positive cytology) disease. These patients are felt to be at additional risk and as a consequence are treated aggressively for one year with triple chemotherapy consisting of Adriamycin, Cytoxan, and Cis-platinum, again followed by a "second-look" laparotomy.

The oncologist is frequently presented with patients with apparent Stage I ovarian cancer who have not had thorough surgical staging. Optimally, these patients undergo a second surgery with multiple intraperitoneal biopsies and retroperitoneal lymph node dissection as described above. We do not recommend restaging of patients with Stage IC poorly differentiated lesions, as their management is the same as for advanced disease.

If a restaging laparotomy is not advisable, we recommend Alkeran chemotherapy as described above for those patients with Stage IA, IB, well and moderately well differentiated tumors. Patients with Stage IC (all grades), Stage IA, or IB poorly differentiated tumors should receive multiagent chemotherapy, as the risk of extra-ovarian metastases is significant for these patients.

P-32 should never be used in patients who have not undergone complete surgical staging. The drug does not treat retroperitoneal lymph nodes (15% involvement in early disease), and since its effective (5000 R) depth of penetration is only approximately one millimeter,[7] it would be totally ineffective in treating even the smallest of gross disease.

### Management of Advanced Disease

The management of advanced ovarian cancer centers around maximal surgical effort to remove all gross tumor or as much tumor as is feasible. All these patients at our institution are treated with chemotherapy, and the kinetics of cytotoxic drugs require minimal tumor to achieve cure. Patients are considered to have had optimal resection if no single remaining tumor nodule is greater than two centimeters. Radical surgical approaches are justified in these patients if this goal can be achieved.[8,9]

Total abdominal hysterectomy, bilateral salpingo-oophorectomy, and omentectomy continue to play a central role for advanced ovarian cancer. In addition, partial small bowel resections and/or partial colectomies are commonly required. The nature and spread of ovarian cancer frequently involves the rectosigmoid and ileocecal areas requiring resection of these regions. As ovarian cancer is a surface-spreader, many of the intraperitoneal tumor nodules do not invade the full thickness of either bowel or bladder, and as a consequence, these lesions can be removed in many instances without bowel resection. Howev meticulous and often tedious dissections of th multiple areas of involvement in the peritoneal ca are required.

The lesser omentum can commonly be involved w far-advanced ovarian cancer and can be resected starting on the greater curvature of the stomach a transverse colon. Resection of the transverse colo occasionally required. The majority of extensive pe tumors can be removed by techniques similar to th utilized in radical hysterectomy with dissecton of ureter off the medial leaf of the broad ligament a down to the ureteral tunnel. Ligation of the uter artery at the hypogastric artery is often helpful. T entire pelvic peritoneum can, in fact, be remov utilizing this technique with the plane of dissect being retroperitoneal. Diaphragmatic and liver surf nodules can also be removed by establishing the pro planes of dissection. It has been our experience and t of others taking this aggressive approach that 80% o patients with advanced ovarian cancers can have the majority of their tumors removed leaving no sin nodule greater than two centimeters and thus render the patient optimal for further chemotherapy.[9]

It is these optimally resected patients that, desp having advanced disease, have a reasonable chance achieving cure. Griffiths et al.[9] demonstrated a marke improved survival for those patients with advan ovarian cancer whose remaining disease, after ini debulking surgery, was no greater than 1.5 centimet as compared to those patients whose remaining dise was greater than 1.5 centimeters. It is of interest to n that there was no difference in survival whether patient achieved optimal surgical status by removal large bulky disease, or started with initially small volu disease prior to surgery—again emphasizing importance of cytoreductive surgery in advan ovarian cancer.

These radical surgery procedures should performed only when the patient would be rende "optimal." As a consequence, nonresectable lesi greater than two centimeters (such as 1) intrinsic li metastases, 2) porta hepatic involvement, and 3) h para-aortic lymph nodes) are contraindications to aggressive approach. It is still generally helpful remove the primary tumor if this can be eas accomplished.

*Chemotherapy*

All patients with Stage II, III, and IV epithe carcinoma of the ovary receive chemotherapy af definitive surgery as noted above. Although for ma years single-agent chemotherapy with alkylating age such as Alkeran or Cytoxan was considered t treatment of choice in ovarian cancer,[10] now numer studies[11-13] have clearly demonstrated the superiority multiagent chemotherapy in advanced ovarian canc Various combinations of Adriamycin, Cytoxan, C platinum, Hexamethylmelamine, 5-FU, and Meth trexate have produced overall response rates as high

to 90%, with complete responses in advanced
ase as high as 20% to 40%.[11-13] It has been noted that
bination chemotherapy has improved survival
ificantly in those patients who have optimal
reductive surgery.[9]

he combination drug regimen that we favor for
viously untreated patients with advanced ovarian
cer consists of: Adriamycin, 40 mg/m$^2$, Cis-platinum,
mg/m$^2$, and Cytoxan, 600 mg/m$^2$, all given
avenously at three to four week intervals for one
. If myelosuppression precludes monthly treatment,
east ten courses of chemotherapy should be
inistered to every patient. At the completion of one
of chemotherapy, patients who have no clinical
ence of disease are subjected to a second-look
rotomy. This operative procedure consists of a
ough search for tumor which includes: 1) four
logical samples of the peritoneal cavity including
cul-de-sac, right and left pericolic gutters, and right
hragm; 2) multiple intraperitoneal biopsies
uding all adhesions, the anterior and posterior cul-
ac, right and left pericolic gutters, and right
hragm (particular attention is drawn to areas of
wn previous disease); 3) bilateral pelvic and
atortic lymph node sampling as described above;
4) omental biopsies. Needless to say, should there
ross evidence of tumor at the time of laparotomy,
extensive biopsies listed above are not necessary.
vever, an attempt should be made to remove as
h of the tumor as possible so the patient, at this
se in her therapeutic management, can again be
mal (no single tumor nodule greater than two
imeters) prior to chemotherapy. A study at M.D.
erson has demonstrated an improved survival after
nd-look laparotomy for those patients who are
mized by further surgery.[14]

tients who have residual disease at second-look
rotomy are continued on combination chemo-
apy. At present, we favor a combination of Velban,
mycin, Hexamethylmelamine, and Cis-platinum for
e patients who have already received Adriamycin
Cytoxan or single agent alkylating agent therapy.[15]
ents who have previously received tolerance doses
is-platinum are treated with Velban, Bleomycin, and
amethylmelamine only.

e have found the human tumor stem cell assay
SCA) particularly helpful in selecting therapy for
ents with persistent and relapsing ovarian cancer.
erts et al.[16] have demonstrated a predictive accuracy
0% for single agent chemotherapy in relapsing
ian cancer patients with the HTSCA drug sensitivity
When the assay demonstrates resistance to drugs,
100% of the time the patient fails to respond to
apy. In addition, when therapy is selected on the
s of HTSCA, a significant prolongation of survival is
ed, as opposed to patients treated empirically on the
s of known active drugs for relapsing ovarian
cer.[17]

any patients with advanced ovarian cancer are seen
by the oncologist after exploratory laparotomy with biopsy only (patients considered nonresectable). It is our feeling that these patients should all undergo an attempt at cytoreductive surgery, when referred to us, both from the standpoint of optimizing these patients for chemotherapy and obtaining tumor for the HTSCA to prospectively select appropriate therapy for them. It has been our experience to date, that the vast majority of these patients can be optimized surgically.

Patients who are not candidates for reexploration can be initiated on multiagent chemotherapy and upon demonstration of a response and resectability, be re-explored at that time.

Patients who initially have bulky disease which does not respond to Adriamycin, Cytoxan, and Cis-platinum are changed to appropriate second-line therapy.

This new aggressive surgical and chemotherapeutic approach to advanced ovarian cancer can be expected to achieve a 50% to 60% five-year survival in those patients who have optimally resected disease.

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Psychiatric Disorders

# Reasoning
# Part 1

William B. McGrath, M.D.

Editor:
Thomas E. Bittker, M.D.

Physical fitness is unarguably worthwhile, both for its own sake and with regard to its influence on mood and outlook. A feeling of well-being describes the immediate objective. Reinforced, too, is the purpose of medicine as not just a healing (after the fact) profession but more positively oriented toward prevention of disease and the promotion of optimum health.

Hence proliferating in our time are weight reduction salons, spas and gymnasiums, as well as tennis courts and golf courses, jogging tracks, bowling alleys, racquet ball courts and swimming pools. There are innumerable magazine articles and books on every aspect of physical conditioning.

And none on mental fitness!

Such an imbalance is feebleminded. And disproportionate attention to physical fitness is quite at odds with our perspective of psychosomatic functioning. Here we have the term, psycho-somatic, with the arrow of causation pointing from mind to body: mens sana in corpore sano. The bias is a result of the peculiar structure of Caucasian writing—left to right—along with our most pervasive fallacy, post hoc ergo propter hoc. Note our idiom: "If such is so, it *follows* that . . ."

To make up one's mind one must have natural ability plus parental and societal permission—and then such skills in reasoning as can be acquired.

The ability to reason and to be reasonable depends mostly on command of language. If one cannot pose a question one can hardly expect an answer. Until any problem will have been put into words, no one can begin to think of a solution. The more refined one's use of language, the clearer his own thoughts and the m understanding our response.

Ex-press—to send a package: The word condenses whole principle of encephalization; i.e., the evolut of mankind beyond the dumb helplessness of bru Given a disturbing thought or feeling, the colloquial is apt: Get it out of your system. On an anatomical lad the individual who stutters is surely closer to s expression than is the patient with hyperventilatio peptic ulcer or spastic colon. Psychosomatic disord do not cure themselves or just go away. Wit grumblings of body language and physiology seldom be relinquished until conflicts come consciousness and verbal explication.

The person who mistreats an animal, includ himself, can almost always rationalize his cruelty. T especially relates to the abuse of hoofed or hun beasts of burden. The invitation to meanness indifference is the muteness of the victim. The first most essential requisite to compassion is comm ication.

This also applies to the wonderfully therape sharing of experiences in any kind of fellowship.

Reading, by the way, is the richest uncle of fellows and community and all that such terms connote. A go author can externalize in language and thereby share human-ness, taking the curse off our own. Televisi relying on pictures, can have the opposite eff Pictures displace imagination instead of cultivating leaving no room for one's own creativity or educa discrimination. When the media char imagination making everything "explicit" we begin losing sensit and turn backward toward barbarism. Remember Pla prophetic comment on human beings: "They see o their own shadows, or the shadows of one anot which the fire throws on the opposite wall of the cav

A picture is worth more than ten thousand words? T is true, but only in concrete terms. Whenever one mo up to the abstract or the metaphysical, a word may worth ten thousand pictures.

Language and reasoning are evolving togeth Experts treat linguistics as an organic, growing proc not unlike history and the law. The understanding trends and changes calls only for intelligent hindsig Our passive acquiescence that the character communication is emergent is what continues impede any real progress or improvement.

Errors in the wording of our thoughts are still error the thoughts themselves. A strange apathy has kept from realizing this or doing anything constructive ab it.

If the evolution of reasoning is an organic proces might be compared with the growing of co Generations of farmers cannot just sit on their porch carefully documenting the invasion of weeds and floo The learned professions, the farmers of the mind, l better get out of the rocking chairs of hindsight and some weeding and cultivating in the fields of langua

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Aside from enabling patients to fall asleep more quickly and sleep longer, Dalmane seldom causes morning hangover. Most Dalmane patients feel alert and refreshed when they awaken. In 53 paired-night clinical studies comparing Dalmane and placebo in 2010 insomniac patients with a variety of secondary diagnoses, most Dalmane patients awakened more alert and refreshed, and less groggy and drowsy, than on nights when they had taken only placebo.[1] In a double-blind crossover study of 42 patients in private practice, approximately three as many patients reported feeling refreshed and aler awakening after a night on Dalmane (flurazepam/R compared to placebo nights.[2] This difference was hi significant ($p<0.001$). And a retrospective study o hospitalized patients who received Dalmane reveale a 3.1% incidence of side effects.[3]

While residual effects from Dalmane therapy infrequent, patients should be cautioned about drink alcohol, driving or operating hazardous machinery ingesting the drug.

## Efficacy and safety in a broad range of patient types.

Over 2000 clinical trials involving more than 10,000 patients have shown that Dalmane patient asleep sooner, sleep longer and experience fewer no awakenings.[4] The safety and efficacy of Dalmane h been demonstrated in medical and surgical hospitali patients, in patients seen in office practice and in eld patients.[5-8] Since the risk of oversedation, dizziness,

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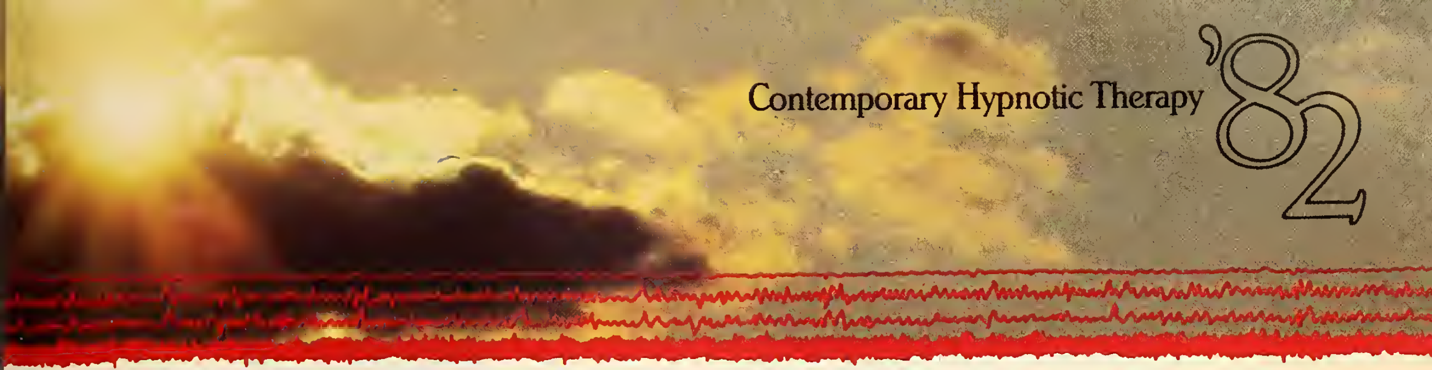

on and/or ataxia increases with larger doses in the elder-
, it is recommended that the dosage be limited to 15 mg.

Moreover, the efficacy and safety of Dalmane for the
eatment of insomnia have been demonstrated in thou-
nds of patients with a variety of primary medical condi-
ons, including cardiovascular, neuropsychiatric, endocrine-
etabolic, gastrointestinal, genitourinary, respiratory and
usculoskeletal disorders.[1] Dalmane (flurazepam HCl/Roche)
contraindicated in pregnancy and in patients hypersensi-
ve to the drug.

## Avoids rebound insomnia upon discontinuation.

Rebound insomnia—a worsening of sleep beyond
retherapy levels after drug discontinuation—has been
eported as a potential clinical problem with some hypnot-
cs.[9,10] However, this problem has not been reported with
Dalmane. In eight out of eight sleep laboratory studies,
here were no reports of rebound insomnia.[11] When you
rescribe Dalmane, you can be confident of efficacy that
nhances therapeutic progress. Your insomniac patients can
e assured of a restful night, night after night—a good start
or a good morning.

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**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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*Radiology*

# ase of the Month No. 57

nathan M. Levy, M.D.
hn K. Crowe, M.D.
ry J. Stegman, M.D.

itors:
nathan Levy, M.D.
rald Pond, M.D.

A 17-year-old boy hurt his right arm playing football. e cannot raise the affected arm. A shoulder film is own in Figure 1.

What is your diagnosis?

What single film would assure you that you were rrect?

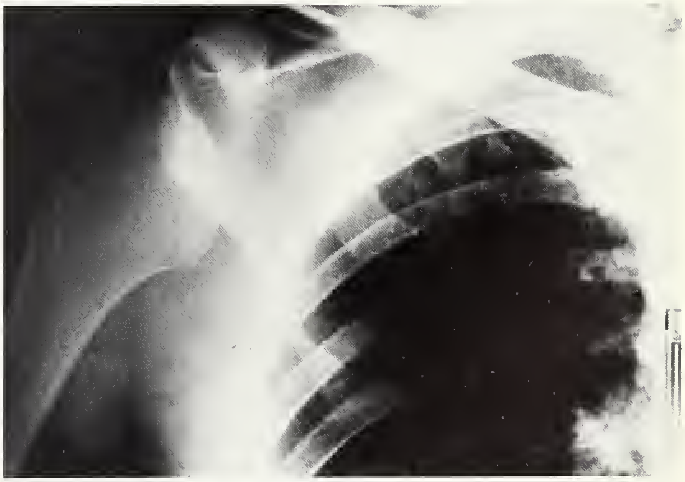

**Figure 1**
**AP view of the shoulder.**

---

om: The Department of Diagnostic Radiology, Scottsdale Memorial spital, 7400 East Osborn Road, Scottsdale, Arizona 85251.

*Continued on next page*

# Answer:
# Anterior, subcoracoid dislocation of the humerus "Y" view of the shoulder.

Dislocation of the shoulder is one of the most common injuries encountered in the practice of medicine. The anatomy of the shoulder can be distorted by projection on the anteroposterior (AP) view. Often, one cannot determine whether a dislocation is anterior or posterior from conventional views. Transaxillary views have historically been obtained, in an effort to determine the position of the humeral head in relation to the glenoid. This view has several disadvantages; it is hard to obtain, can produce additional trauma to the patient, and requires relatively increased x-ray dose to penetrate the patient in transverse projection. A better view is available, but has not been universally employed.

The "Y" view of the shoulder is obtained by rota
the patient 60 degrees, with the affected shou
closest to the film. This view projects the scapula
"Y", with the coracoid and acromion processes for
the arms, and the body of the scapula forming the
(Figure 2). The humeral head should sit in the midd
the "Y". Anterior and posterior dislocations are sh
by displacement of the head of the humerus fror
center of the "Y". In our patient, anterior displacer
of the humerus was easily seen (Figure 3).
reduction of the dislocation, only a single repeat
view was needed to document the reduction.

The "Y" view offers a simple, non-traumatic
accurate way for determining the position of
humeral head. It should be used in all patients suspe
of having shoulder dislocations.

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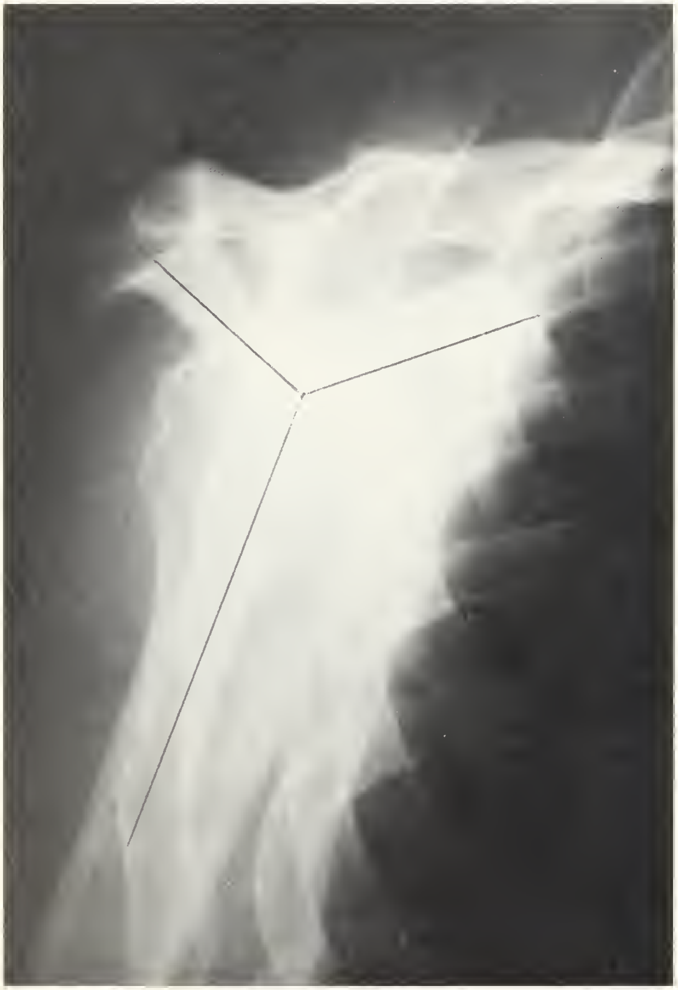

**Figure 2**
**"Y" view, with limbs of Y drawn in. Humeral head in place.**

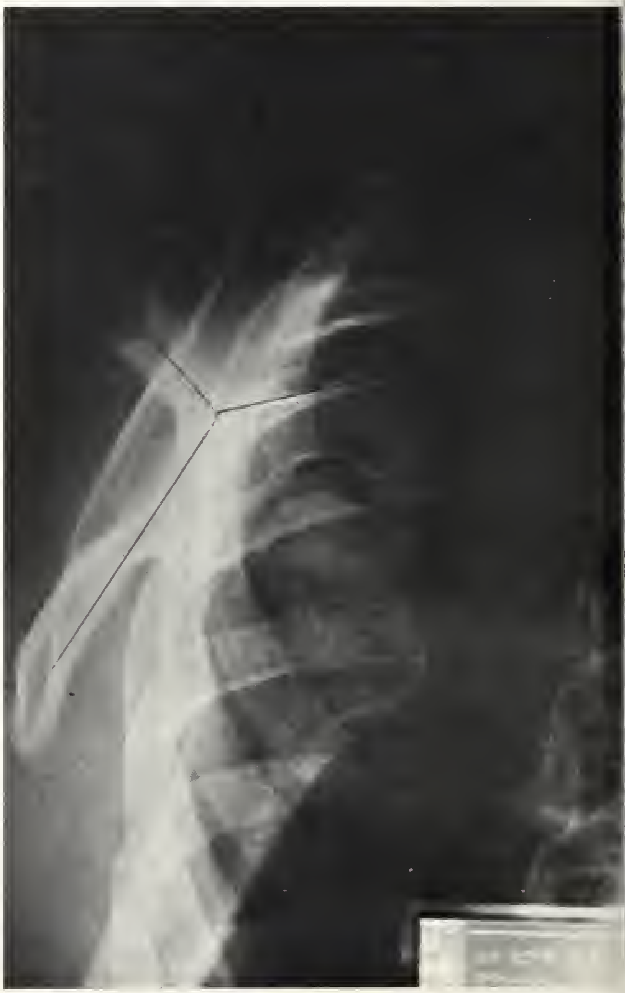

**Figure 3**
**Anterior dislocation. Humeral head projected anterior to**

Special
Article

# e Pursuit of Excellence

r J. Lynch, M.D.

**onvocation address for the University
rizona Medical School, Class of 1982.
14, 1982.**

## oduction

st Saturday night I was in a hotel room
/ashington, D.C. I had spent the day
ning to an endless series of 12 minute
arch reports. Throughout the day my
d and my buttocks had grown equally
nb. Like any sensible Irishman I badly
ted a drink and some light hearted
versation with my friends. Instead I
pacing the floor wondering what in
world I was going to tell you tonight in
convocation address. During this
dless meandering I fell to thinking
ut the general meaning of graduation
rcises. Surely they could not be
bly important or else why would I
ember my first day at medical school
much more clearly than my last.
haps, I thought, they are held simply
unish the students by making them
n to one last lecture. But no, if so I
ld have had to prepare a lecture
ndout" and there would be a stack of
and box of number 2 pencils on the
ern. A breeze then drifted in through
open window bringing with it a few
n thoughts. I recognized that these
nmencement ceremonies quite rightly
urred as a public reward for work well
e and that they served as a time of
bration to compensate for a long
iod of deprivation. But most
important of all, it seemed to me, was the fact that this day, together with the forthcoming month between now and the start of your postgraduate training, offered the chance for a pause. Such pauses seem important in nature; rhythms of activity and rest are all around us. Winter follows summer and sleep follows wakefulness. However I wondered, of what teleologic meaning was this particular pause in the educational journey of a medical student. At the thought of a journey my mind drifted towards the many times I had hiked the south facing trails on the front range of the Catalina Mountains: Finger Rock and Esperero trails in particular. I recalled that I almost always chose to rest at those points in the trail which offered open vistas. These pauses served two purposes for me. They allowed for the recuperation of physical strength, of course, but more importantly they offered the chance for reflection and meditation. During the active part of the climb my mind would be focused on the trail itself or on the minutiae of everyday life. On the other hand, while quietly gazing down over the expanses of the Tucson Valley or upward at the pine covered mountain tops, my thoughts would turn to more philosophic subjects: contentment, future planning, and basic questions about the meaning of life. At that point I realized that throughout art and life, pauses were used in a similar way. Beethoven composed his symphonies in movements so that there would be periodic intervals available for the tuning of instruments. The voyager in Robert Persig's *Zen and the Art of Motorcycle Maintenance* covered the whole of freshman philosophy during pauses in his cross country trip.

As I recovered from my daydreaming I began to realize what this convocation tonight was for: it was to initiate a pause for you during which you would have the opportunity, quite possibly for the first time in four years, to examine your lives in the largest possible sense; to ask questions such as "why am I studying medicine," "what will I do with my future years," and "am I satisfied with the way I am running my life." I then recognized that my role was to serve as a facilitator for this questioning process. One who would open the first few questions, examine some of the issues and, hopefully, offer an answer or two.

Though I now knew what I wanted to tell you tonight I was still troubled by the fact that I knew I could cover no new ground. After all philosophers smarter than I, and better trained, had for centuries written about these basic problems with great thoroughness. I knew that I could offer only vague generalities and unproven speculation. But then a reassuring thought struck me: my audience tonight was to be made up largely of the very individuals who had written those marvelous essays on "why I want to be a doctor" for their medical school applications. Surely they would be gentle in judgment of my awkwardness and inarticulateness. With these considerations in mind I took pen in hand and began composing this address: "The Pursuit of Excellence."

The material to be included in my presentation tonight is divided into three parts. They include: first, medical school graduation as a transition point; second, the pursuit of excellence based on internal motivation and third, the need for pacing during such pursuit.

## Medical School Graduation as a Transition Point

Let us look now at the first of these: medical school graduation as an important transition point. One might ask the question: "is this graduation tonight any different than, or any more important than, your graduation from high school or your graduation from college?" I believe that it is. Your grade school and high school graduations represented only quantitative transitions. This one marks a qualitative change in your approach to education and thus in your approach to the pursuit of excellence. Let me enumerate three aspects of this important change.

First, up to this point definition of the word excellence has involved only the acquistion and display of knowledge. Assessment of the degree to which you have achieved excellence has depended entirely on things relative to knowledge: your grades, your performance on standardized tests and, perhaps, on your election to honor societies. From now on this will no longer be true. In the future your excellence will be judged on much more than knowledge alone. Assessment will include such criteria as your thoughtfulness, thoroughness, dependability, personal warmth and the many other similar traits which determine the quality of the patient care you render.

Second, up to this point the degree to which you have attained excellence has been quantifiable. Acceptance to an ivy league university, matriculation at the University of Arizona Medical School and membership in Alpha Omega Alpha were by their very definition proof of excellence. The brilliant student who loafed his or her way past milestones and the slower student who poured heart and soul into the same achievements were said equally to have obtained excellence. However, in the future, quantification will be difficult and with the possible exception of specialty board certification, there will be few, if any, new absolute standards of excellence against which to judge yourself.

Third, because excellence was defined in terms of knowledge quantitated to a measurable level it was by definition, achievable. You had a definite goal and you knew exactly what you had to do to get there. Based on this discussion it becomes quite clear that in the years ahead you will be much less sure of just what excellence means and you will be much less sure about how well you are achieving it. In fact, your definition of the word will change from year to year but in its mutability there will always remain the element of elusiveness. This is so because the goals of excellence you set for yourself must, if they are to remain motivational, lie just outside your grasp. For this reason I have entitled my talk the "pursuit" of excellence rather than the "achievement" of excellence. That is not to say that attainable intermediate goals such as the reading of a certain number of books, the publication of a certain number of manuscripts, or the election to officership in your professional societies should not be set. But, precisely because you have set these goals yourself you will recognize that they are merely *symbols* of excellence and that they do not represent excellence itself. You may find that the nebulousness which is contained in your new definition of excellence will be unsettling at times but at least you will recognize with hindsight how limited and inaccurate have been our judgments of your excellence throughout your school years.

To this point I have spoken only about the definition of excellence. It is even more important now that I speak about the pursuit thereof. In speaking of pursuit I am really speaking about motivation. One will not pursue any goal without appropriate and sufficient motivation. And in speaking of motivation I will be critical both of you as students and us as faculty. This criticism occurs because to this point, your motivation had developed mainly because of factors external to yourselves. Your productivity has generally been dependent on the rewards we have offered you. These rewards have included such things as hugs and kisses from your parents for "A's" in grade school; the gift of a watch for honor role placement in high school; the approbation of your professors in college and today public adulation of your accomplishments in medical school. You have become addicted to this reward system and now when it is ending some of you will be reluctant, in the absence of yet another doggy biscuit, to continue to preform. Motivation based on external reward is not all bad but it is a system better suited for the training of children and circus animals than it is for the education of enormously talented adult human beings. Nevertheless, I will judge you only gently if you falter in facing a world increasingly indifferent to the desirability of excellence. To a greater degree, I castigate ourselves as faculty both for our continued use of the system and for our failure to help you develop a better system of motivation. Because of our failure, you will have to develop a substitute system on your own. Just what form it will take is variable, but one thing is certain. At its core must lie this one fact: all future motivation must arise from a personal intrinsic desire to seek perfection. All of us have within ourselves the capability of performance without external reward but how often do we live up to this capability? What will become of you in another ten years? What will you do when there are no more courses you must take, when there are no more tests you must pass, when there are no more honor societies to which you might be elected? When the external reward system you have grown comfortable with is gone will you still seek excellence with the same degree of diligence you have exercised up to this point? I fear that the answer will be "yes" only if you begin today to plan for the future. This brings me to a major question and the second part of my presentation: "how does one go about developing this necessary internal motivation?"

**Internal Motivation for the Pursuit of Excellence**

In attempting to answer this question, I have no startling new ideas, no fool proof schemes and no double blind, controlled studies to offer you. My suggestions instead are based on common sense, anecdotes, case reports and a modest amount of personal experience. They fall into two major groups: those directed towards the pursuit of excellence within your professional life and those directed towards the pursuit of excellence in your personal life.

Let us begin with the former. First, make an original observation. Somewhere along the line you will encounter some medical problem unusual enough to be worth recounting for others. At the very least convey this observation verbally to those around you. Even better put it in writing if you can. Such a written observation need not be formal in nature. A letter to the editor is easy to prepare and its publication will be both useful to society and immensely satisfying to yourself.

Second, purchase twice as many journals and books as you think you will need. In spite of your best intentions you will never go to the library as often as you should and there is no substitute for having your reading material readily at hand. Do not trouble yourself over the cost; these expenses, at least after your residency, will be a minute fraction of your income. Moreover, your investment in journals and books ought to be vie
as capital investment analogous to
business man's expenditure for rep
ishment of stock. You can not affor
live only off yesterday's store of me
education any more than the busi
man can fail to continually moderniz
equipment.

Third, having provided yourself
the raw material, read as much as you
But don't let your obsessive-compu
nature compel you to read each issu
every journal from cover to cover.
quantity of time required for
reading leads to procrastination and
habit of "seasoning" one's journal
one's desk. At the risk of seeming
intellectual I suggest browsing thr
new issues as rapidly as you receive t
Read what catches your eye or
interests you. Read an abstract here
an editorial there. Skip whole articl
even whole issues when nothin
pertinent to your needs. Do not s
too much time on review articles.
better to file these for recovery at s
future time when a particular patient
particular problem requires exte
review. Instead spend your time on
observations. Obviously many of t
new observations will not stand the te
time but they will make you think and
make you sharpen your powers of cr
judgment. Don't read solely within
own field. Peruse at least one journ
general medicine and several in
specialties which are most closely alli
your own. Such catholicism in
reading will retard the developme
narrow mindedness and will imp
your ability to communicate with
colleagues.

Fourth, even as writing and rea
expand your intellectual skills so sh
"doing" expand your technical s
Familiarize yourself with new techni
as they become available. Learn t
oughly at least a few of these
incorporate them into your practice.
learning can be accomplished by the
of a more experienced colleague
attendance at workshops and
returning for a "mini-sabbatical" at
alma mater. Failure to keep up in t
technical areas will rapidly cause yo
fall far behind each new generatio
medical students as they enter prac
Such loss is highly visible to your
leagues and is paid for dearly in tern
decreased self-esteem.

Fifth, teach someone someth
Remember that the word doctor c
from the latin "docere" to teach. Tak
medical student as a preceptee, st
clinic at a teaching hospital, teach a
aid class at the local high school, cou
the public on self-care through b
living habits. Teaching keeps you cur
exposes your mind to the insig
questions of your audience and fo

to organize information which might
rwise indefinitely rattle around loose
our head.

xth, work on medical administration.
ctive in local and national medical
eties, take a turn on hospital com-
ees and, most important of all,
cise a vigorous role in the arena of
ical ethics. These administrative tasks
onerous but they are of tremendous
ortance. Involvement in them will
e you out of your own selfish personal
ld and will cause you to look at the
of medicine in a much larger sense.
ill also demonstrate that you as an
vidual can play some role in
rmining the destiny not only of your
medical life but also the direction
the morality of the medical
ession as a whole. Your participation
teach you tolerance for the foibles of
rs and it will offer society evidence
we as physicians have the desire and
to safeguard the trust that people
e in us.

t me turn now to the other side of the
: the pursuit of excellence in your
onal life. Almost by definition
ellence cannot be achieved in a single
ment of one's activity. All of life is
rtwined. The manner in which you
for patients cannot be relegated to a
rate and independent compartment
our life. There is no question that how
lead your personal life greatly
nges on how you deliver medical
and vice versa. You cannot have
ellence in the one without excellence
e other. Moreover, the "practice" of
icine, no matter to what degree it is
orized by society, is not of a moral
r higher than that of the "practice"
fe and thus it deserves no singular
hasis in the quest for excellence.

ot surprisingly, you will find that the
uit of excellence in your personal life
be no less difficult than is the pursuit
xcellence in your medical career. In
the task may be considerably more
ious since the criteria which define
onal excellence are rather less clear
consensus regarding the best
way is even harder to obtain. Of only
thing there is no doubt: here too the
ivation for excellence must be
rnally developed. Nevertheless, and
ite of the difficulty, let me offer some
cepts.

rst, when faced with equal oppor-
ties choose the active rather than the
ive mode. Increasingly the members
our society have abbrogated the
ortunity to do things for themselves.
e words of a marvelous song, though
n in quite a different context, we
e become comfortably numb." Take
minute walk rather than watching
ther half hour of television. Go skiing
ead of sunbathing. Play racquetball
er than sitting in a stadium to watch a
football game. Write a letter rather than read a magazine. Play the guitar rather than listen to the radio. It seems to me that an appropriate definition of aging is that it represents the gradual shift from active to passive mode. A decision not to do something is often easier but is usually less desirable than a decision to do something. A negative decision is all to often a decision for dying rather than a decision for living. Our horizons constrict all too fast as it is; keep pushing at them as long as you possibly can.

Second, and as a paradox to what I have just finished saying, maintain some time for quiet reflection. If you spend all your time with your nose to the grindstone you will fail to see what beauty exists in the world around you. You will lose your perspective about the larger things in life, you will become mired in minutiae, your life will drift for lack of long term goals and you will lose the magnificent feeling of sharing love with those around you. In short, time and the world will pass you by. Time for rest and reflection is far too important to be left to chance. Make this time priority time. Plan for it not as you plan for vacation (think of how many vacations have been ruined because people were too busy to enjoy themselves) but plan for it every day and every week. Set aside a few minutes of your lunch hour, the last half hour before you go to sleep, an hour on Sunday. Even during your residency, find yourself these few moments. You will come to relish them and you may even find that they make the difference between irascibility and peacefulness, sanity and insanity.

Third, maintain an interest in the arts. I can't tell you why music, theater, artwork and literature are so helpful but they certainly do seem to act as a most remarkable antidote to the irritability of the world around us. They can recreate tranquility after the most hectic of days or weeks. They offer beauty in a world, which in many respects, seems to be growing uglier day by day.

Fourth, make some commitment to a cause about which you feel strongly. If you have no important personal commitments there is a real danger that a time will come when life will seem to lose its meaning. Passionate commitment, balanced of course by a mind open to opposing viewpoints, rekindles enthusiasm and reinforces the important realization that individuals can in fact change the course of society. The nature of the committment, I suspect, matters less than the persuasiveness of it. Religious belief, preservation of the wilderness, conservation of energy, abolition of nuclear arms, anyone of these can serve in its own way for one or another of you.

Fifth, even in the busiest of times maintain a hobby. Such a device serves as an excellent outlet for otherwise unreleased energy and hostility. It clears the mind of worries associated with one's work, allows for a method of meeting individuals other than fellow physicians and acts as a balance for the tendency of medicine to monopolize one's life.

Sixth, maintain your sense of intellectual curiosity. For most of us development of intellectual curiosity provided our first sense of excitement over intellectual achievement. It was often our directing force, first toward science and then toward medicine. In childhood it was the best and, perhaps the only, internal form of motivation. It is sad to realize that the external reward system discussed earlier, together with our current educational emphasis on facts rather than reasoning have all too often led to a marked loss in intellectual curiosity by the time of medical school graduation. Is yours still present? Test yourself. Look in the dictionary for the definition of a single word. Can you do it or do you involuntarily find yourself looking up other words spotted as you turn the pages? The titer of your intellectual curiosity can be estimated by the number of words about which you stopped to read. Husband whatever spark of curiosity has escaped the ravages of education just as a hiker would guard the dying sparks of a campfire. As you have time, rekindle those sparks by using them. Take a computer course, build a telescope, solve a puzzle. Such activities will keep your mind active and will stave off boredom.

Seventh, and my only negative suggestion, do not become beguiled by material possessions. Once you enter practice, income will be earned all too easily. Do not let your riches distort your perspective. In particular do not let the demands of your lifestyle determine either the quality or quantity of your practice. You will clearly have money enough on which to live. There really is no reason to accumulate more. Remember always that your position as a physician does not give you some inalienable right to a certain standard of living. Society has granted us the opportunity to live well because physicians have traditionally given much back to society in terms of personal, interested and knowledgeable care. Society can and will revoke that privilege if it perceives that the equilibrium has shifted. To the degree that greed has been preceived in me and my colleagues, we have hurt both you and the people who have trusted us. Take care that you do not shift the equilibrium further. Strive always to give more than you receive.

To this point we have reviewed a dozen precepts which may, in some small way, help in the development of internal motivation in your pursuit of excellence.

This brings me to the third and final part of my talk: the need for pacing in the pursuit of excellence.

**Pacing in the Pursuit of Excellence**

It is well to remember that life is a marathon race not a sprint. The excellence of your effort can only be judged at the 26 mile finish line. Tonight you are only crossing the ten mile marker. The front runners today, no matter how highly praised, have won no race and may falter yet. The laggards have not yet lost but must soon quicken their pace if they aspire to excellence. Finding and maintaining the correct pace is extraordinarily difficult. One must steer a careful course between the Scylla of laziness and the Charybdis of "burnout." One is just as bad as the other. Both lead to less than optimal service for society; both eventually lead to a sense of personal failure and both stem at least in part from the same failure in our educational system: the failure to help our students develop an internal motivation system. Our failure with the underachiever is more apparent and for that reason less pernicious. I am more troubled by our failure with the overachiever because both our problem and their problem are hidden by apparent success. We and they glory in their current productivity and achievement. But what good is all this if, after the completion of formal training, the remaining 30 years of their lives are spent in mediocrity. How much better would it be if we traded a ten percent lower rate of effort in the decade or so of medical education for a lifetime of active learning and enthusiasm.

With these difficulties in mind how can the thoughtful student determine if his or her pace is correct? It is not always easy to tell but repeated acts of procrastination coupled with denial about the importance of productivity suggest underachievement or even downright laziness. On the other hand a dimming of enthusiasm and a chronic sense of being trapped by work signal the early stages of burnout. In either case it is of utmost importance to recognize that faculty, friends, and family can offer only limited assistance in the regulation of your pace. Ultimately only you can choose the rate at which you wish to run and only at the end of a lifetime can you judge its correctness.

In closing I can summarize by saying that the real importance of this convocation tonight is that it marks a transition. It represents our release to you and your acceptance of, complete and personal responsibility for a lifetime spent in pursuit of excellence.

Go now in peace and joy. Let your inner strength and equanimity be manifest as an unmistakable smile such that all those you encounter will recognize that you come to them in helpfulness and in love.

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## Editorials

# Preventive Oncology

Essentially half of all deaths from car
occur from lung, colon, and br
tumors. Since current treatment of th
tumor types generally is not curative,
important to consider the poss
prevention of these categories of tun
by altering lifestyle and other e
ronmental factors proven to be hi
correlated with development of th
tumors. The importance of en
ronmental factors has been establis
by comparing the cancer incidence r
in various areas and noting that migr
take on the rate and type of tu
incidence of the residents of the cou
to which they migrate. A high incide
of lung cancer has been documente
England and the U.S., occurring at a
35 times higher than in a low incide
area, Nigeria. Breast cancer incidenc
high in Canada and the U.S. and oc
five to seven times more frequently t
in Israel. Colon tumors are high
frequency in the U.S., and the rate is
times higher than in Nigeria. From 195
1975, deaths from lung cancer increa
148% whereas deaths from stom
cancer decreased 61%.

Are there preventive measures
would significantly lower tur
incidence and mortality? Yes. Estimate
the potential contribution of tobacco
diet to cancer deaths range from 35%
70%. Lung cancer incidence in cigar
smokers in the U.S. is ten times gre
than in non-smokers. In 1978, c
122,000 cancer deaths were attribute
tobacco. A conservative estimate
cancer deaths attributable to tobacc
30% of the total cancer-related m
talities. This is astonishingly h
compared to pollution, indust
products, food additives, occupatic
hazards, medicine, alcohol and se
behavior, each contributing from
than one percent to a possible high
seven percent. So, the first import
preventive measure is to abstain fr
tobacco, particularly cigarettes. Only
has been implicated as possibly a lar
contributor to cancer deaths t
tobacco. Approximately 35% of t
cancer deaths are related to high fat,
fiber, and low vitamin A in the diet.
regular diet low in fat content, contain
foods high in cereal and vegetable fi

foods rich in vitamin A, such as
ots, appears to lower the incidence of
on and breast cancer. The high
dence of colo-rectal cancer in the U.S.
relates with a total dietary fat intake of
r 150 g/day. Mexico, with an average
ntake of 60 g/day, has an incidence of
on cancer mortality less than 25% of
incidence in the U.S., four per 100,000
sus 22 per 100,000 population. When
are one of the extra 18 deaths per
000, you have lost years of valuable
span that could have been controlled
attention to dietary intake patterns.

udies are being conducted now in
nans to determine the extent of
tection by diets high in fiber, beta-
otene, and vitamin A. Vitamin A is a
wn antiproliferative agent, and a high
dence of tumor formation occurs in
min A-deficient animals. Beta-
otene, a compound in carrots that is
abolized to two molecules of vitamin
nay have added protective properties
quenching the energy of the short-
d, high energy oxygen radicals thus
ering the potential of metabolism of
ny compounds to active carcinogenic
cies.

program project on the mechan-
(s) of tumor prevention and control by
min A analogs is ongoing at the
ona Health Sciences Center and is
ded by the National Cancer Institute.
min A may prove to be one of the first
ritional agents used to decrease
dence and to inhibit tumor prog-
ion after diagnosis. All the statistics
information on cancer incidence in
ous countries were taken from:
hard Doll and Richard Peto, The
ses of Cancer: Quantitative Estimates
Avoidable Risks of Cancer in the
ted States Today. *Journal of the*
*ional Cancer Institute* 66: 1192-1308,
l.

summary, to markedly reduce the
dence of lung, colon and breast
cer in the U.S., careful attention to
and the elimination of the use of
acco would decrease the incidence of
se tumors by an estimated 65%. If you
't give up tobacco, then at least lower
intake, ingest high vegetable and
eal fiber, and maintain a substantial
min A and beta-carotene intake by
ng carrots.

ne H. Russell, Ph.D.
essor
artment of Pharmacology

is J. Kettel, M.D.
n
ege of Medicine

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# The Role of Cardiologist in Permanent Pacemaker Implantation in Arizona

**The views expressed in this editorial are those of the author and do not necessarily reflect those of this Journal. We welcome rebuttal arguments from those with opposing viewpoints. The ideas expressed in this manuscript are controversial and may not have a vaild scientific basis. MBB, Editor**

The last four years have seen an increasing number of cardiologists requesting, and, at times, demanding that they be given privilege in permanent pacemaker insertion. It began with one cardiologist (in a Phoenix hospital) who already had privilege to place intracardiac catheters in the form of central lines (CVP, Swan-Ganz, and temporary pacemaker electrodes). Apparently, he maintained that if cardiac catheterizations fell within his medical domain, he ought to exercise the right or privilege to introduce permanent electrodes whether by way of exposed cephalic or external/internal jugular veins, with the help of the cardiothoracic surgeon, or by way of percutaneous subclavian vein, again with the help of the surgeon creating and closing the subcutaneous pocket for the pacemaker. If one follows such a deductive reasoning, the cardiologist now has conceived of a mold whereby he is by creation of his own standards of criteria a permanent pacemaker implanter.

To be fair to the cardiologist wishing the privilege for permanent pacing, there are those who claim that they were (and may actually be) trained to do the procedure, and proclaim that they should be allowed to exercise their talents. When pressed by such argument, denial of privilege becomes a burden of proof to the cardiologist to state his true qualifications.

The third route of argument is actually a corollary of the first. In the last few months, it seems that if private cardiologists can train each other to place permanent pacemaker in a medical facility other than a hospital, it follows that such training can be used as a priori qualification to strengthen the leverage of their application in the eyes of the surgical and medical committees.

Thus, by three routes of reasoning, a number of cardiologists wish to establish themselves a more important role in the world of pacemaker implantation. Recently, many requests have been made by a few cardiologists in at least four hospitals in Phoenix and Mesa; and the numbers are increasing both in volume of applicants and quantity of hospitals. Suddenly, these hospitals, with their committees and medical staff, are placed in an arena with potential development of camps and battleground(s); they are asked, with the cardiothoracic surgeons looking in trepidation and disfavor, to set a new precedent and dilute the contribution of the surgeon. The dilution is felt demeaning by the absence of any added benefit and the duplication of an activity that is being rendered superbly by an already existing cadre of thoracic surgeons in both communities. The hospitals are asked to resolve a brewing problem that challenges the surgeon's expertise with the procedure and resolution of its surgical complications (myocardial perforation, hemorrhage from venous or arterial sources, wound infections and dehiscence, etc.). The request is actually a demand for recognition of training (by whatever means), full expertise (often questioned), and added contribution (minimal, at best). To all involved, it is a matter of degree-of-training, territorial rights, established precedents, prestige, power, and money.

Out of this Pandora's box will come seeds of tension and distrust, blooming flowers of rationalized, distorted, and prefabricated arguments tainting the offerings of good intentions on all sides. Surgeons will be for and against surgeons, cardiologists will have their internal camp. The cardiologist will question the intent and action of the surgeon and vice versa. The forum will replete with hospital bylaws, prior and future amendments, resolutions, deletions and additions. Medical and surgical committees, executive committees, and hospital boards of trustees will bask in many hours of points and counterpoints. Physician and hospital responsibilities, medical and legal consequences, intents and objectives—all these will test the fibers of each involved physician, medical staff, hospital, and medical community. Pray for a peaceful outcome before one patient suffers the deliberations of such a medical warfare.

At present, the questions and arguments most often pressed by the cardiothoracic surgeons to the cardiologists requesting privilege for permanent pacemaker insertion are the following: Why do you want to do it when we can do the job? What advantages or benefits do you bring in addition to what we already offer? Can you care for the surgical complications? When the cardiologist cannot introduce the pacemaker electrode percutaneously via the subclavian route, was he trained to expose the cephalic or the internal jugular vein? To handle even the minor complications (pneumothorax, hemothorax, wound infections. . .)? If granted such a privilege, does that extend to thoracotomy for epicardial lead introduction? Just as creation of a subcutaneous pocket for the pacemaker is not sufficient for total knowledge in the surgical technique, is expertise in the introduction of intracardiac catheters sufficient a training to grant such a privilege? If no, why should the cardiologist want to do it when the cardiothoracic surgeon can do both phases of the procedure? In short, the request has too many limitations in training, expertise in regards to both surgical technique and the potential surgical complications; it offers no greater benefit or result to the patient, the medical staff, or the community.

The cardiologists, on the other hand, retort as follows: If I can place temporary electrodes, or do percutaneous intracardiac catheters, why shouldn't I extend my influence to permanent pacemaker insertion? I have helped surgeons during my training or in private practice, why shouldn't I do so now? What gave the surgeons the right to dictate what I am capable of doing as a cardiologist? If I can prove training, why shouldn't I do it? If you have taken our surgical complications postcatheterization, why should this be any different if I need your help now? In summary, I have the qualifications by medical training in cardiology and familiarity with pacemaker equipments and evolutionary improvements; therefore, I deserve the right and demand my privilege.

And what of the medical community's queries? Will Arizona, or its local hospitals or cities set their own precedents based on cliques of physicians having financial interests? On qualifications of physicians trained to do so? On administrative directives following postgraduate courses? How can this problem be approached before medical and legal calamities fall on this growing populace? Under what circumstances would the cardiothoracic surgeon want or prefer doing pacemaker insertion with the cardiologist? Would such (an) exception(s) extend to full privileges in surgical pacemaking? Is (are) such (an) exception(s) reason enough to allow partial surgical privilege?

All these queries can best be answered by formulation of surgical criteria to which both the cardiologist and the cardiothoracic surgeon are answerable to the medical staff of the hospital, and the patient. One must realize that the question does not revolve on whether pacemaker introduction is a *new* procedure that encompasses in part or in whole a number of specialties. For example, it is not a question of whether the vascular radiologist, or the cardiovascular surgeon, or the invasive cardiologist can insert a catheter for angioplasty (coronary and/or peripheral) or circulatory support (intraaortic balloon placement). It is not a question of whether it is an *old* procedure that involves a number of specialties, such as certain venographic/arteriographic procedures as related to cardiovascular surgery, and radiology, or bronchoscopy and needle biopsy as related to pulmonology and thoracic surgery. It is not even a matter of collaborative enterprise enjoining the cardiologist and the surgeon (general or vascular) as is being done in other locale devoid of cardiothoracic help. It should not be simply a battle of cardiologist and cardiothoracic surgeon, a tug of war among various committees. It is not a question of what the medical committee or cardiovascular committee or the surgery committee would administratively prefer.

However, it is a problem that should be resolved primarily by the surgery committee with input from both the medical and the operating room committees. It is a question of training, surgical exposure and expertise, and a sound appreciation and application of basic surgical concepts; this matter should be less an affair of territorial rights, prestige, and economic gain. One must assess the presence or absence of the totality of medical, pacemaker, and surgical training and expertise. Lacking any of the descriptive factors is to subject the patient, the physician, the hospital, and the community to deficient, subminimal health care, and potential medical and legal misadventures.

At this point, the burden of proof rests with the cardiologist, and the guidelines proposed should reflect the basic medical and surgical qualification (past training), and competence (prospective case evaluations) of the cardiologist. The knowledge of the cardiologist on the parameters, programmability, and availability of different pacemakers is not being scrutinized or criticized; but his surgical credentials will be questioned. Medical or cardiology committees have already given the cardiologist the right to exercise the talent and training in intracardiac catheterization; therefore, it would be redundant in having surgery committee recognized a resolved medical-cardiological component of an interventional technique already required of an invasive cardiologist. Permanent pacemaker insertion is not a procedure presently and commonly being taught in its entirety to most U. S. residents and Fellows in Cardiology. It is not a precedure that has minimal number for recognition of minimal training and qualification for the American Board of Cardiology or any other specialty boards except the American Board of Thora Surgery (ABTS).

To summarize, I personally have objection to a cardiologist implant permanent pacemakers as long as he met the rigorous training a qualification of a cardiothoracic surge as dictated by the ABTS. The ultimate minimal standard is maximal training quality performance. That is the decis of a surgery or cardiothoracic committ Any dealings with prior jurisdicti traditional rights, or established clai rest with the executive committe hospital boards, and the medical st Such political decisions and commu standards should implement but ne supersede the professional qualificat of a physician.

**Epilogue**

Guidelines for cardiologist permanent pacemaker implantation.

A cardiologist should document, training by residency or fellowship w supportive references from both card logist(s) and cardiothoracic surgeo detailing the number of cases he acted as primary surgeon (minimum ca of ten) and assistant, and 2) expertise w at least two or more permanent leads a pacemakers in current use; this may done per operative notes and character references from his supervis during his residency or fellowship.

A cardiologist must be supervised five (5) cases, one of which must be atrioventricular sequential pacemak the supervisor must be a cardiothora surgeon who is not concomitantly the surgeon (to be revised with the advent supervised cardiologists). Future n supervised cases must be done wit cardiothoracic surgeon as co-surgeon safeguard against potentially surgica invasive cardiac complication(s), and provide an additional expert if cardiologist encounters problems w insertion, poor lead placement, a unsatisfactory thresholds. As a corolla the above statement does not (and sho not) restrain a cardiologist from assisti or acting as co-surgeon if a cardiothora surgeon should request his (cardiolog help in times of proven difficulties w pacemaker lead insertion.

Recognition of the qualification of cardiologist as a permanent pacema implanter should be assessed successive steps by the credentials co mittee, surgery committee, executi committee, and the board of truste with the latter, 1) being the ultimate jud and jury within the hospital medicole framework, and 2) recognizing the abo criteria as minimal surgical standards any cardiologist.

Professional input from the medi committee, the operating ro committee (e.g., observation of ster techniques within the O.R. arena, w nts, instruments, and equipments) 'd be encouraged. Both positive and tive points should be reported to the ry committee as additional data for ll assessment of the cardiologist.

t F. Olivier, M.D.
, Arizona

## h Annual Rural th Conference

ust 13, 14, 1982
y-Riddle Aeronautical University
cott, Arizona

**onding to the Effect of the New ralism on Rural Health Care**

presentation by Governor Bruce itt on the future of health care in ona will highlight the 9th Annual l Health Conference. Henry Foley, ., Director of the Arizona Health Cost Containment System will deliver jor address on the impact of the 's new alternative to Medicaid on Arizona. Representatives of federal state government, funding nizations, health professional, ning and consumer groups, as well as ical experts on critical care problems, be among the faculty for the erence.

e major purpose of the conference is ster a growth in understanding of the blems facing providers and umers as they seek to improve the ty of health care in rural Arizona. s raised in response to the national y of New Federalism, particularly as relate to its effect on rural health in underserved areas, will provide its ral theme. Each of the major entations will be followed by small-p problem solving sessions.

in previous years, the conference feature a dual-track format. Track 1 consist of a series of lectures and tion-answer sessions on critical care lems experienced by the practicing ician, and practical methods for onding to them. A special session will ess two of the problems identified at year's conference—communications transportation.

The Track 2 program will center around the exploration of issues and the generation of ideas which may be useful in responding to anticipated changes in funding patterns, as well as the organization of health care, under new federal policies. Participants will identify problems, explore the feasibility of alternative strategies, and discuss their role in the provision of health care in underserved areas.

Seven health professional groups and the Arizona Department of Health Services are co-sponsoring the conference with the Rural Health Office of the University of Arizona, The Veterans Administration South West Regional Medical Education Center and the Yavapai County Medical Society. Continuing Education credit is available for physicians, nurses and dentists.

For addtional information contact the Rural Health Office, 3131 East Second Street, Tucson, Arizona 85716, (602) 626-7946.

**Conference Co-sponsors:**

Arizona Academy of Family Physicians
Arizona Department of Health Services
Arizona Hospital Association
Arizona Medical Association
Arizona Nurses' Association
Arizona Pharmacy Association
Arizona Public Health Association
Arizona State Dental Association
Rural Health Office, University of Arizona
Veterans Administration
South West Regional
Medical Education Center
Yavapai County Medical Society

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# *Briefly Noted*

**Sandra Smith, M.D.**, Tucson pediatrician, began a six-month commitment in democratic Kampuchea, formerly known as Cambodia, where she will work in a refugee camp. The camp, actually that nation's second largest city, has a 1,000 bed hospital which includes about 80 beds for pediatric patients.

**Michael H. Vawter, M.D.**, Phoenix, was elected president and **Arthur J. Lipschultz, M.D.**, also of Phoenix, was elected vice-president of the American Heart Association, Maricopa Division, for 1982-83. New members of the board of directors are **Drs. David Long, Dwight Lundell, Marian Molthan and Ronald Zmyslinski** of Phoenix and **George Bandy** of Scottsdale.

**Burt S. Strug, M.D.**, Tucson, is the new president of the American Heart Association, Southern Arizona Division, for 1982-83. **Samuel Goldfein, M.D.** will serve as vice-president and **Drs. Anthony Forte** and **Philip Serlin** were elected to serve a three-year term on the board of directors. ArMA members currently serving on the board include **Drs. Jack Copeland, Dietmar Gann, Robert Goldfarb,** and **Richard J. McCarty**.

**Drs. Russell Chick, Robert Hagan, and Robert Wilson** of Phoenix, served as instructors at the Basic Athletic and Sports Injury Care Course (BASIC) co-sponsored by the Arizona Medical Association and Arizona State University April 3 at Arizona State University.

**Manuel Ma. Guerrero, III, M.D.**, was re-elected president and **Romeo B. Fandino, M.D.** was re-elected secretary of the Pinal County Medical Society for 1982-83.

**Howard E. Weinstein, M.D.** of Mesa, has been elected to fellowship in the American Academy of Neurology. The fellowship was conferred in April at the Academy's annual meeting in Washington, D.C.

**Vincent A. Fulginiti, M.D.**, head of the Department of Pediatrics at the University of Arizona College of Medicine and chairman of the American Academy of Pediatrics' Committee on Infectious Diseases, testified before the Investigations and Oversight Subcommittee of the Senate Committee on Labor and Human Resources in May of this year.

Dr. Fulginiti warned subcommittee members that the nation's system for control of infectious diseases is threatened by a reduction in federal funding for vaccine, legal suits against health professionals and manufacturers for injury from vaccines, and news media sensationalism over claims of injury.

In his testimony, Dr. Fulginiti also disputed statements made in a program produced and aired by WRC-TV in Washington, D.C. on April 19 and excerpted for airing on the NBC "Today" program on April 20. He said the incidence of permanent side effects and even serious reactions was vastly overstated. He also took issue with the program's inference that government and the medical community have maintained a conspiracy to conceal facts about the vaccine's risks or to minimize them.

Dr. Fulginiti reaffirmed his and the AAP's support for the continued use of pertussis vaccine as the best available deterrent to the suffering and death of children which, he predicted, would occur if the public is frightened away from immunization.

One hundred forty-three physicians from around the state and as far away as Colorado, Michigan and Washington D.C. attended Current Perspective V which was presented during ArMA's 91st Annual Meeting. Seven presentations are scheduled for the 1982-83 Current Perspectives program—watch for details in later publications.

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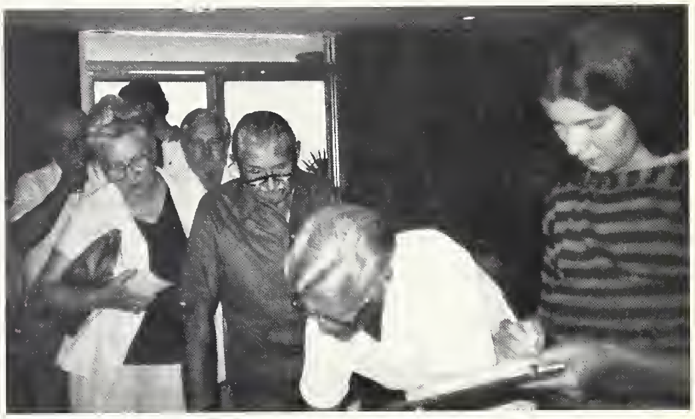
Physicians can honor one of their c by using the recently-issued **Dr. M Edwards Walker** 20-cent commemora stamp. A surgeon and proponent of ec rights, Dr. Walker served in the Un Army during the Civil War. Dr. Walker honor student, was the only woman her class to graduate from Syrac Medical School in 1862.

## Current Perspectives V Infectious Diseases

**Time for a break—Katalin J. Festy-Sandor, M.**

Prescott physician Ray Inscore (left) talks it over with one of his colleagues.

A President John E. Oakley, M.D. (left) with Eskild A. rsen, M.D., U. of A. College of Medicine, Program ctor for Current Perspectives V: Infectious Diseases.



Sign in, please.

topic was probably "pediatrics" when Howard Purcell, . (left) and W. Scott Chisholm, M.D. met during the break.

Intent on the message: ArMA members listen and take notes.

# Annual Meeting Highlights

## Presidential Address

John E. Oakley, M.D.

Presented to the House of Delegates
May 21, 1982

Thank you, Clyde. I just can't imagine the relaxed attitude you had doing that little piece. Ladies and gentlemen, and more importantly, I hope for the next year as well as now—friends, the tremendous honor this ceremony signifies is indeed overwhelming and I am deeply appreciative of the fact that the position, rather than the person, commands this applause and rightfully so.

Go back to 1973. Put yourself in a hushed, darkened room—a show room, one of the largest casinos in Las Vegas, Nevada. I was there with my family and friends; dinner was just over and the room became completely pitch black. One minute past show time and everyone's eyes were focused on the stage waiting for the star known to you and me mostly as Gomer Pyle. He was our second choice that night, we were unable to get into the show we wanted to see. Suddenly about two minutes late, rather than on the stage, the spotlight turned down on this person dressed in an outstanding dazzling white suit, Jim Nabors, not on the stage but within ten feet of my table. There was a hush, even quieter than before, and he looked up, held the microphone in his hand and sang this song. (*At this point Dr. Oakley sang in German*)

I made a promise about ten years ago to the late Walt Brazie that if I ever got up here I was going to sing in German just as he and John Standifer and I did over here at a bar with Sam Steiger one night, so Walt, I hope you appreciated that.

I took the liberty of changing "How great thou art" to Gage's 9th from Shiller's "Ode to Joy" because Jim Nabors did sing "How great thou art" rather than the 9th, in German. I think it very appropriate, being a German language major as some of you know.

I represent a certain type of physician to myself and hopefully recognizable to the rest of you. In those days it was about one out of eleven who got into medical school. Most of us majored in things that were different then, biochemistry, biology, we had to take them all, but I've never felt sorry for that.

I have been here 18 of the last 20 meetings and I can't tell you four things that I remember from those addresses. Ed Sattenspiel gave a great one. I haven't reviewed all these except the last two, because I had to figure some sort of time frame. If you haven't picked it up by now, I am going to take the liberty of using my typical way of communicating because I have never taken a course in public speaking and I don't apologize for that. I think we in medicine need to re to people the way we are and present our facts f knowledge, and that's what I hope to do.

So, the respect that ArMA has obtained, yes demands, been earned through the years by countless talented, working, dedicated men and women. These people do ask for, and frequently, do not receive the recognition, m less praise, yet they continue to appear, whenever nee just giving and giving and giving and you are among t and you know many more. The success of the officers an this entire organization is completely dependent upon t people and their excellent staff. There is no one perso my opinion, capable of satisfying the many needs of organization because there simply is not enough time in day to maintain communication, to monitor the commi work, the legislative work even with the excellent staff. magnitude of this position is overwhelming and it bec more so, the two years prior to assuming this position, I assure you. Suffice it to say, this formidable challenge, insurmountable challenge is accepted by me at this ti The one strength of this organization is perhaps that can't prepare for this, therefore the job is comple dependent upon interaction, upon communicat expecting a sort of state of constant turmoil is the ni thing I can say about it, hopefully, always approached wi large sense of humor. I would like to give a little pers background.

I have been impressed over the years, either it's passe by, or it's been lacking, but I think you have a right to kn little bit more about me, other than those things that Cl said and which I appreciate very much.

I'm a general surgeon from Prescott and in a fa practice group with two of my classmates from the Univer of Missouri. In 1957 I took my surgical residency at St. L County Hospital, am a member of the College of Surge am 49 years of age and married to my high sc sweetheart, Helen, have 6 children, ranging from 17 to 2 were here with the appropriate spouses last night except son-in-law, and they will be here again tonight. I w encourage you to meet them, get to know them, and I thi would be inappropriate if I told you about a tough dissec we had last week, but I don't feel it is inappropriate as fa expressing pride in your family and maybe this has b lacking in many professional organizations. The strengt organization sometimes goes back to the strength of the ily unit, and certainly, in these hard times we need every ngth we can look to.

will tell you, off the record, I was down here for three years ore I knew that Bob Carpenter wasn't the anesthesiologist n Tucson I thought he was. Then they replaced him with ce Robinson and I thought he was an attorney with Blue ss/Blue Shield. I hope that you get to know me, those of who don't. I'm serious about that, it was sort of a loss the t few years, and unfortunately, many of the county ieties lose continuity by changing personnel.

heard Dan Cloud, the AMA President, give an address on rmative leadership several months ago. Some of you were re.

have four pages I was going to read you, plus a twenty nute talk on this National Health Policy that Geri lingham just sort of summarized in two minutes, so I am ng to scratch that. I would like to remind you of some of real problems in medicine that Dan addressed, and the t is cost. I am not going to give you the two pages of tistics that he gave us but it is kind of impressive when you eak of $247 billion dollars for the National Health bill and re importantly, representing ten percent of the GNP. The ohol, smoking, vehicular accidents, the numbers are just lly mind-boggling. Seventy-seven million excess work s lost per year from smoking—350,000 premature deaths. o packs a day, under the age of 35, Clyde, cuts nine years a life span according to the present statistics concerning arettes. Just wanted to mention that statistics aren't really thing, but that's what it's all about in medicine right now, ecially the cost of supporting this way of life.

wrote this speech about six weeks ago and have rewritten bout four times and decided yesterday when Ron Gardner d me that nobody was going to pay attention anyway, that as going to "wing" part of it so you'll have to accept that. I nk he was right. I was at a Preceptor's meeting in Tucson weeks ago and had a thirty minute dissertation given to on public speaking—eye contact with the audience, nperature of the room, dress, but the most important thing arned was that the content was less than 25% . I didn't te accept that, but I think it's acceptable in quite a lot of diences that you and I may be compelled to speak to. Here el like I'm under the gun, since you are all peers, or more perienced, so I hope the content is a little meaningful.

mong my assets, next to family, I consider friendships d I am very fortunate to have as a friend, a senior chiatrist from Phoenix named Bill McGrath. Whenever I stymied as far as my direction, both in life or in a position this, I just whip out one of Bill's editorials that I have ed over the years. I've never bought his book—I derstand he's written a book or two. But he said a few rs ago, "A lie is to deny the truth to someone who has a nt to it. A person who has a right to the truth does not have urther right to the explanation of that truth." Now I don't ow anyone who could put it more succinctly, so what I owe is a promise, rather a commitment, to do all those good ngs that you expect me to do, and to do them to the best of ability. Nothing less and nothing more. Edwin Burch said, our representative owes you not his industry only, but his gment, and betrays instead of serving you, if he sacrifices this judgment to your opinion. "Think on that for a little bit. What that says is, "Trust me." Seriously, the trust me part is kind of ironic.

To digress for a moment, in the last two weeks most of you, if not all of you, saw the publicity that a fellow named Thomas Lacey, 28 years old, resident of the state of Georgia, a "trust-me" state, 92% burns over his entire body, indigent, and after 30 phone calls to burn centers all over the country, no one would take him. So, the Governor of Georgia stepped in and put up $50,000 front money so the city of Baltimore Burn Unit would take him. Now I followed through last week. I went down to our Emergency Room a week ago yesterday, had our Emergency Room nurse put in a routine call such as we do from Prescott—96 miles away—such as I do, and have been doing since 1962— to the Maricopa County Burn Unit. "We have an indigent patient, traveling through, not even a county resident. How soon can we get him there, he's burned." Would you believe, no questions about finance. We've had our problems about that in Yavapai County—about moving indigents which are being hassled out at the legislative level with our Board of Supervisors, but no questions on the burn. No Medicaid, no insurance, no financial quiz . Send him right away—do you need a helicopter? I think that's appropriate for the state of Arizona. What's more we were assured of quality care—the care we picked. We didn't have to make two calls. I don't know if that holds true with all the outlying counties, but I think it gives us something to think about with what we are going through right now with the Indigent Health bill.

I have a letter that I have kept on my desk, dated June 3, 1977, and it's signed by Gary Hultzhoff, Ph.D. with the letterhead of Raoul Castro. It says, "You are invited to be a provider for 165,000 indigent patients." This was our invite to Medicaid. I suppose most of you threw them away, but we ran out of our Courthouse when he came up, our Board of Supervisors right behind us. We asked him every kind of question you can imagine about quality, we didn't want to talk about money. Our Board of Supervisors and many others testified down at the state capitol, but particularly Yavapai united, and we defeated the funding of Medicaid in this state.

I gave talks in 1965 throughout our county for Eldercare. Some of you remember that term, Eldercare, and I gave talks, at ArMA's direction, on MICA, a few years later, on the cost of malpractice insurance, both moneywise and otherwise. Then we went through the deunification process here. This was an eyeopening experience, but it's behind us. Most of you know that I served on the HSA, the last HSA in the United States to be formed. I served there for two years for northern Arizona. What I am trying to say is, again in the words of another philosopher, "Whatever your field of enterprise, and whatever your position in it, remember the force of the human mind. You should never declare you're that which you do not wish to be." And I guess in the long run, I always knew I wanted to be up here. I wouldn't have believed that about an hour ago, but Howard Hyde, Dick Zonis, or Scottie Chisholm, are not going to take the mike from me, not even Truman today, right now.

Bill Shephard told me before I left, "Give 'em hell down there, tell 'em what Yavapai is all about". I hope you know we feel constructive. Yuma and Yavapai have sat together back there all these years and kind of jested about it, but the biggies here in Maricopa and Pima counties, (as far as members, and new doctors practicing medicine), would like to be a little part of it at the same caliber and level, and I hope that my value to this organization, and I say this in all humility, is that involvement over the years that I've had—my experience, input and testimony is relevant because I can say, I was there. Anybody can say platitudes and quote philosophers, but someone who is still practicing medicine, day in and day out, with all the hazards that you and I know, and still caring enough and believing that the credibility is with the individual, I think that this is important and excellence in quality still has to be number one.

I would like to read from my bible—*American College of Surgery*. Fortunately, they don't always deal with surgery. This is the issue of April 1981—a very short paragraph by Mark Twain. It's historical—it's about 75 years old, and he was writing to the wife of his physician, Dr. Cincinnatus Taft. I hope I don't bore you, those of you who read the Journal, there's a tremendous article on Sam Clements' attitude on the medical profession.

"To my poor mind, the first of holy callings is the physician, and he should walk before pope and cardinal, and all the priestly tribe, for he heals hurts that are real, not imaginary, and his charity is above theirs, for he heals all that falls in his way, not merely the chance sufferer here and there who is willing to say first "Good Gallilean, I subscribe to the condition."

Just think of that—it was written in 1907. I subscribe to the condition. Do we ask that question, really ask it as physicians. I won't continue the letter except that he alludes to the fact that all physicians belong to someone, and he's talking about his physician, not our physician. This is, of course, a tremendous tribute.

One of my present-day idols, until he was so untimely murdered in 1978, was Mike Halverstan. I'm sure you are aware of his burgulary attempt and all the publicity it received, but I cut an article out that he wrote for one of the Journals back about 1977 or 1978, before his death, and I kept it, not knowing that at any time I would be in this position. The title was "How to deal with the Press" and it just strengthens my opinion that the patient credibility is our biggest tool. He says, "How can you get up and talk about the best medicine in the world, or the best medicine that money can buy—millions for reasearch, when you're dealing with people that accuse you of having a vested interest. It may be true, but it just doesn't cut any ice. Your patients are your best tools. He goes on to say that you should be specific. Again, the type of thing, I know what they do at the HSA where I am; Bill Scott knows what they do down in Pima, and this value, if you utilize it, if you're not negative, but if you use it, you might have a harder time with legislators, but the press swings the way the pressure is. They give facts, what they think the facts can be interpreted, and if you're asked the question "What has this HSA done in your area?" or if you know the answer, "Have they closed the OB ward?" "Have they denied building of a CAT scan, or an Ultrasonic?" "How does it apply to your practice." If you say, "What is the cost of a VA bed in your area compared to what we are talking about in private practice?" This is meaningful. It can be if it's c
correctly.

I'm going to skip over Oliver Wendell Holmes, but just w
to let you know that he wrote an article 120 years ago
Homeopathy. The 1964 issue of *Practice of Medic*
*Historical Book* says it is still the outstanding critique
homeopathy. He also wrote an essay on drugs, why
should abandon them and go back to nature. I think t
sometimes we forget that our best bet is to take people of
medicine, or treat them prior to medicine rather than anot
pill.

I am going to cut out the 13 pages on Albert Schwei
since I studied him in German I don't think too many of
would understand the reverence for life, but I would like
encourage those of you over 50 let you know that All
Schweitzer argued with Oesler and wrote an article about
few years ago because Oesler recommended that physici
retire at 40, 60 at the latest. Schweitzer said that we owe i
our patients to continue as long as we are competent. He a
said we should not work to do good, but we should worl
do good for a particular cause. Incidentally he was fon
quoting Henry Ford about the age thing. Henry Ford s
"Take all the experience and judgment and experience
men over 50 years of age out of the world and there woul
be enough wisdom left to run it." That should make som
you feel good.

I'm almost there. . .a quick summary of things that h
happened and are happening. We have a tremend
change in our lobbying technique. The hiring of Al
Stanton and Kevin Walker on board made big difference
the past year. But as you heard at the Board of Direct
meeting this morning, we have just really gotten back,
maybe we are just holding our own. We have problems t
are bigger than any of us realize, if you believe Allan, ar
certainly think enough of you testified, at times you w
called upon to testify, that we have to believe him. I'm
going to try to sell you ArMPAC. I'm not a member.
probably the first Executive Committee person to get this
and not join in about 15 years, but after this morning I
going to.

More importantly, I am going to try to get some m
people to join. They did some things in ArMPAC that go w
back, and you can't go the rest of your life remembering th
They didn't please us up in Yavapai and it was very speci
and a lot of us dropped out all at once, but right now we
got bigger things. We are a little bit better financial wise

You know Dr. Kurtz announced to you last year ab
some premium rebate from MICA . We have membersl
improvement and we are still actively monitoring a
recruiting. The CME "Perspectives" program, certainly
successful thing in view of declining attendance at c
scientific meetings. Yesterday we had 161 registered for t
Infectious Disease session, and in spite of the fact of t
short time frame that we gave the University, I can only g
them accolades. They put on a very pertinent progra
Finally, our participation, both actively and definite
constructive, in AHCCCS that is in the process
implementing this cost containment care bill, does not me
that we agree with it or that we think that it will work, it simp
signifies as we have previously stated, that we shall mainta

sitive attitude. Many of you are involved in this. Any new
t or significant input is always welcome. We have an
llent relationship with DHS at this time, in my opinion,
with Jim Sarn and now with Hank Foley. I believe they
both reasonable people. My personal concerns
rwise are minimal. We have accomplished a lot. I can't
ve that I can come near doing what John Clymer did two
s ago when I first came on this Committee, but I think
e did more and better. Not to take away from John, but I
hink the last two Presidents are going to be very difficult
cceed. I would caution you that the roles of hospitals is
increasing and I think those of you down in the big city
v more about that now than we do. I would tell you one
concern that I verbalized on many occasions and that is,
nk state medical societies are going to have to be
nally addressed and likewise the county societies
ity. We are going to have to emphasize more of things
aven't been doing. Bill Rial, the incoming President of
, said the greatest change the AMA has to address is the
ge from a scientific organization to a socio-politic-
omic organization and I certainly think that after these
two years as an officer, that this applies to ArMA. I look
ard to serving you—anticipate a good year—I would like
ally take the liberty of quoting a good surgical friend of
down at Baylor and he said, "We only go round once in
nd this ain't no dress rehearsal." Thanks.

# The Arizona Medical Association, Inc. Resume

## of the House of Delegates 1982 Annual Meeting Second Regular Session May 22, 1982

Adjourned meeting of the House of Delegates of the Arizona Medical Association, Inc., held at the Convention Center of the Ramada Safari Resort, Scottsdale, Arizona, May 22, 1982, convened at 8:09 A.M., Robert A. Price, M.D., Speaker of the House, presiding.

**Credentials**

The Credentials Committee reported a quorum present and the House duly constituted.

**Roll Call**

On the Roll Call, 94 Delegates (and/or Alternate Delegates) and 21 members of the Board of Directors were present.

**Minutes**

Minutes of the meeting of the House of Delegates held May 21, 1981, were approved as distributed.

**Election of Officers**

The following officers were elected for a term of one year:

**President-Elect**

Neopito L. Robles, M.D.

**Vice President**

Earl J. Baker, M.D.

**Secretary**

Richard L. Collins, M.D.

**Treasurer**

Gary L. Henderson, M.D.

**Speaker of the House**

Robert A. Price

**Editor-In-Chief**

Marshall B. Block, M.D.

**Election of District Directors**

The following District Directors were elected:

**Central District Director**

John K. Kerr, M.D. (1982-1985)

**Central District Director**

Walter J.Nieri, M.D. (1982-1983)

**Central District Director**

Wilfred M. Potter, M.D. (1982-1985)

**Northwestern District Director**

Walter K. Sosey, M.D. (1982-1985)

**Reference Committee on Amendments**

Report of the Reference Committee on Amendments as deleted, amended or as otherwise disposed of, adopted with the following actions taken on motions regularly made and carried:

*(Note: All bracketed, italicized words represent deletions; all fully capitalized words are new material.)*

**Resolution A-1-82**

**Subject: Bylaws of the Arizona Medical Association, Inc.**

**Whereas,** An extensive review of the Bylaws of The Arizona

Medical Association, Inc. indicates that much of the content is no longer appropriate and that the usage of the masculine gender is obsolete; and

**Whereas,** Such review further indicates that numerous changes would allow conformity with current practices of the Association and provision of more effective service to its members; now, therefore, be it

**Resolved,** That the Bylaws of The Arizona Medical Association, Inc. be amended to read in their entirety as follows:

**Adopted May 22, 1982**

*(The Bylaws will not be reprinted here but are available to the membership upon request to the Arizona Medical Association office).*

**Resolution A-2-82**

**Subject: Long Range Planning Committee—Standing Committee**

**Resolved,** That Chapter VII, Section 4, of the Bylaws of the Arizona Medical Association be amended by the inclusion of the following:

"(k) LONG RANGE PLANNING:—THIS COMMITTEE SHALL CONSIST OF A CHAIRMAN AND AT LEAST EIGHT MEMBERS, GIVING CONSIDERATION TO GEOGRAPHICAL DISTRIBUTION. THE CHAIRMAN SHALL BE THE VICE PRESIDENT OF THE ASSOCIATION.

THIS COMMITTEE SHALL UPDATE THE ASSOCIATION'S LONG RANGE GOALS AND OBJECTIVES."

**Adopted, May 22, 1982**

**Resolution A-3-82**

**Subject: Elimination of Duplication of Continuing Medical Education Requirements**

**Whereas,** In 1971, when the House of Delegates of the Arizona Medical Association established required reporting of continuing medical education activities as a condition of active membership in the Association, there was no other continuing medical education requirement for members; and

**Whereas,** In 1976, the Medical Practice Act was expanded to provide for mandatory reporting of continuing medical education as a requirement for initial and continued license to practice medicine in Arizona, which differs from the Arizona Medical Association's requirements: and

**Whereas,** This has resulted in a dual burden for members of the Arizona Medical Association, causing confusion and duplication of effort on the part of physicians; therefore, be it

**Resolved,** That the mandatory reporting of continuing medical education as a requirement for membership in the Arizona Medical Association be repealed and all reference to this requirement be stricken from the Bylaws of this Association as follows:

**Resolved,** That Chapter II—Membership—Section 3. Classes of Membership:—(A) Active Members—be amended to read:

All active members of all the county societies shall be active members of this Association. The minimum qualifications for active membership (other than for interns and residents) in a county society shall be that the individual must (1) hold a degree of doctor of medicine or its equivalent or doctor of osteopathy, (2) be an American citizen, or have made application for American Citizenship papers (in which case, he must make reasonable progress toward full citizenship or his membership shall lapse), (3) hold an unrevoked license to practice medicine and surgery or osteopathic medicine and surgery in the State of Arizona, (4) be a legal resident of the State of Arizona. [(5) *fulfill the continuing medical education requirements of the Arizona Medical Association.)*] Subject to these minimum qualifications and to the provisions for loss of membership (Chapter II, Section 4), each county society shall be the exclusive judge of the qualifications of its members.

Interns and residents who are licensed or registered the Board of Medical Examiners, State of Arizona, eligible for active membership in a county society. T members shall constitute the membership of the Ari Medical Association Housestaff Section.

Rights. An active member shall have all the rights privileges of the Association as herein provided. Intern resident active members shall pay no dues for the calendar year in which they first become a member thereafter, shall pay ten percent the dues of other a members and will be exempted from special assessm and be it further

**Resolved,** That Chapter II—Membership—Section 4. of Membership (A) and (B) be amended to read:

(A) Active, Associate or Fifty-year Club membership in Association shall be lost by:

(i) Final expulsion from the county society through whic is an active member of the Association.

(ii) Transfer of membership to a county society of ano state, and thereby to another state association, excep provided in Chapter III, Section 3.

(iii) Voluntary resignation, which shall be without preju

(iv) Action of the House of Delegates (see Chapte Section 6; Chapter VIII, Section 9).

(v) Revocation of the members' license to practic Arizona. This latter clause shall effect immediate los membership as of the date of revocation.

(vi) Termination of Board of Medical Examiners registra of intern or resident active member. This latter clause take effect at the end of the calendar year.

(vii) Failure to pay Association dues and assessments wi one year of the date such become payable, unless failure be exempted under Chapter IX, Section 5.

*[(viii) For active membership, failure to fulfill the contin medical education requirements of the Arizona Me Association elsewhere in the bylaws.]*

(B) Active, Associate or Fifty-year Club membershi this Association shall be suspended by:

(i) Suspension of membership in the county society thro which he is an active member of the Association.

(ii) Action of the Board (see Chapter VI, Section 6).

(iii) Failure to pay the annual dues and assessments be the delinquency date.

*[(iv) For active membership, failure to submit satisfac reports showing compliance with the continuing me education requirements of the Arizona Med Association.)]*

All of the rights and privileges of membership shal withheld during the period of suspension of members and be it further

**Resolved,** That Chapter VII—Standing and Spe Committees—Section 4. Composition and Duties Standing Committee: (1) Medical Education be amende read:

(1) Medical Education:—This committee shall consist Chairman and at least eight members, appointed with consideration for the specialties, family practice geographic distribution of physicians, an ex-officio mem of the committee shall be a faculty member of the Colleg Medicine of the University of Arizona, and should involved in continuing medical education. A Chairman s be appointed annually from among the members who served for at least two years on this committee or predecessor committee. The committee shall represent Association on all questions relating to medical educatio all levels, and the College of Medicine of the Universit Arizona, *[and recommend for certification to the Boar Directors those members who have completed the me education requirements for continuing membership as forth in Chapter II, Section 3, (A), (5)].*

**Adopted, May 22, 1982**

**lution A-4-82**
**ect: Specialty Society Representation in ArMA's House elegates**
**reas,** There exists a concern regarding the rements for specialty society representation in the e of Delegates of the Arizona Medical Association; and **eas,** An amendment to the section of the bylaws ining to such representation would strengthen the bership of the Arizona Medical Association by asing specialty society representation; now, therefore,

**lved,** That Chapter VIII, Section 2(b), of the bylaws of rizona Medical Association be amended to read in its ety as follows:
) Specialty Societies:—A state specialty society shall be ed to representation in the House of Delegates by one gate and alternate who shall be members of the ciation if (A) the specialty has a national board gnized as a primary board by the American Board of cal Specialties, and (B) a minimum of twenty members icing in Arizona, the majority of whom must be bers of the Association, and (C) the activity of the ialty society is manifested by an existing organization or ture exhibiting a slate of periodically elected officers, stablished constitution and bylaws, and a frequency of ing at least once a year. QUALIFYING SOCIETIES LL BE ELECTED TO REPRESENTATION BY THE SE OF DELEGATES. A specialty society shall have an ional delegate and alternate for each additional 150 bers of the Association, as determined October first eding the annual meeting."

**Adopted, May 22, 1982**

**rence Committee on Resolutions**
port of the Reference Committee on Resolutions as ed, amended or as otherwise disposed of, was adopted the following actions taken on motions regularly made carried:

**lution 1-82**
**ect: 1983 Calendar Year Budget of Income and nse**
**reas,** It is customary for the House of Delegates to ove the Budget of Income and Expenditures for the next eeding calendar year of the Arizona Medical ciation, Inc., therefore, be it
**lved,** That the following Budget of Income and enditures for the calendar year 1983 be adopted:

| | **Income** | **Expenditures** | |
|---|---|---|---|
| General Dept. | $ 941,555.00 | $ 804,325.00 | $ 137,230.00 |
| Committee Dept. | 2,000.00 | 80,000.00 | (78,000.00) |
| Benevolent & Loan Fund Commt. | 20,000.00 | 20,000.00 | -0- |
| Publishing Dept. | 105,930.00 | 111,855.00 | (5,925.00) |
| TOTAL | $1,069,485.00 | $1,016,180.00 | $ 53,305.00 |

;and be it further

**lved,** That the annual dues of the Arizona Medical ciation, Inc. be continued at $300 for Active members, $280 going to General Department Budget and $20 to the Publishing Department Budget; and be it further **lved,** That the Service member dues be continued at with $55 going to the General Department Budget and oing to the Publishing Department Budget; and be it er

**Resolved,** That Intern or Resident Active member dues be continued at $30 with $10 going to the General Department Budget and $20 going to the Publishing Department Budget.

**Adopted, May 22, 1982**

**Resolution 2-82**
**Subject: Sodium Labeling**
**Whereas,** There is general agreement that a reduction of sodium intake is indicated in the management of the hypertensive patient; and
**Whereas,** The general population is unaware of the high sodium content of many common foods, e.g., canned condensed soups (for many over 1,000 mgm per serving), T.V. dinners (1,000 to 2,000 mgm per dinner for many), meat pies (2,000 mgm) and many canned food products, salad dressings (2,000 to 3,000 mgm per tablespoon full); and
**Whereas,** Hypertension victims should be able to count their sodium intake as do calorie counters for control of their obesity; therefore, be it
**Resolved,** That the Arizona Legislature be petitioned to enact a memorial to the President of the United States requesting that he take action to encourage the Food and Drug Administration to enact regulations for the labeling of sodium content of foods not later than September 30, 1983; and, be it further
**Resolved,** To petition the Arizona State Legislature to enact legislation requiring that foods processed in Arizona be labeled for sodium content not later than January 1, 1984.

**Adopted, May 22, 1982**

**Resolution 3-82**
**Subject: Funding for Resident Delegates to Resident Physicians Section of the American Medical Association**
**Whereas,** Arizona resident physicians have been entitled to two delegates to the Resident Physicians Section (RPS) of the American Medical Association for the past several years; and
**Whereas,** The Arizona Medical Association (ArMA) has encouraged resident physicians to attend annual and interim meetings of the RPS and the AMA, and has funded two delegates until recently, when the funding allocation was reduced to one delegate; and
**Whereas,** Arizona resident physicians have demonstrated their interest by supplementing the allocated funds with their own personal funds in order to send more than two residents to the AMA/RPS meetings and thus expose more young Arizona physicians to the functioning of organized medicine at the national level; and
**Whereas,** Arizona resident physicians have been extremely active and successful at the national level, with almost continuous representation from Arizona on the Governing Council of the AMA/RPS; therefore, be it
**Resolved,** That the Arizona Medical Association provide funds to send two delegates from the Arizona Medical Association Housestaff Section to the annual and interim meetings of the American Medical Association Resident Physicians Section.

**Adopted, May 22, 1982**

**Resolution 4-82**
**Subject: Tissue and Organ Donors**

**Whereas,** There is an unmet need in Arizona for tissue and organ donors; and

**Whereas,** There are many potential donors available; and

**Whereas,** There are intricate administrative and technical procedures required; and

**Whereas,** The accomplishments of these procedures requires coordinated actions by physicians, hospital personnel and lay groups; therefore, be it

**Resolved,** That the Arizona Medical Association encourage education of physicians, hospital personnel, lay groups and the general public to improve the availability of tissue and organs for transplant.

**Adopted, May 22, 1982**

**Resolution 5-82**
**Subject: Creation of an Ad Hoc Committee on Hospital Services**

**Whereas,** In the fall of 1981, the Association became aware that there seemed to be an apparent concern among the medical profession relating to the rapid growth of hospitals, the continuous expansion of hospital programs, and what effect, if any, these might have on medical staffs, private physicians and the community in general; and

**Whereas,** In September of 1981 this ad hoc committee was formed to discuss the issues and determine whether the Arizona Medical Association should, on behalf of its members, be addressing the issues or formulating any position relative thereto; and

**Whereas,** After several committee meetings, as well as a meeting with the chiefs of staff of various hospitals, the committee determined that, in fact, a more in depth study should be made and developed a questionnaire which was submitted to all chiefs of staff in the State of Arizona on February 26, 1982; and

**Whereas,** The results of that survey have now been tabulated (a copy of which is attached hereto for information purposes) and, while the response was not all inclusive, it is deemed that there is a basis for some concern on behalf of the medical profession and a desire and need for greater communication among hospital administration, hospital boards, medical staffs, and the private physician sector on an on-going basis; therefore, be it

**Resolved,** That an Ad Hoc Committee on Hospital Services be established by the Arizona Medical Association, with participation by the Arizona Hospital Association, to study relationships between hospitals and their medical staffs and to serve as a forum for discussions.

**Adopted, May 22, 1982**

**Resolution 6-82**
**Subject: Commitment to and Support of ArMPAC**

**Whereas,** The Arizona Medical Association has endorsed the concept of physician political involvement; and

**Whereas.** This endorsement has manifested itself in the formation of ArMPAC, the Political Action Committee of the Arizona Medical Association; and

**Whereas,** The purpose of such political action committee is to ensure that the voice of medicine is represented in the political process, and

**Whereas,** Medicine's role in the political process has been enhanced by the personal financial support and dedicated efforts of thousands of physicians from across the country, including physicians in our own State of Arizona; therefore, be it

**Resolved,** That the Arizona Medical Association reaffirm its support of the Arizona Medical Political Action Committee and further dedicate itself in the State of Arizona; and be it further

**Resolved,** That a copy of this resolution be sent to
county medical society in Arizona, urging their suppo
the Arizona Medical Political Action Committee.

**Adopted, May 22, 1982**

**Other Business**

**Orientation For New Delegates**

It was suggested by William C. Scott, M.D. tha
subsequent years new Delegates and Alternates be invit
a short orientation session with the Speaker of the H
immediately prior to the opening of the first regular ses
to acquaint them with reference committees and how
operate, as well as the House of Delegates procedure
that they may understand the importance of
attendance.

The recommendation was accepted by the Speaker,
indicated this will be done in future years.

**Suspension of Rules**

It was moved, seconded and carried to suspend the F
to allow for deliberation of a new resolution.

**Distribution of Revised Bylaws**

*It was moved, seconded and carried that copies o*
*Constitution and Bylaws be made available to*
*membership at Association Headquarters upon reques*

**Eligibility of Arizona Society of Internal Medicine**

It was moved, seconded and carried that the Ari.
Society of Internal Medicine be recognized as
organization which is eligible for a seat or seats in the H
of Delegates.

The Executive Vice President was instructed to so n
the Arizona Society of Internal Medicine.

Meeting adjourned Sine Die at 9:31 A.M.

**Richard L. Collins, M.D.**
**Secretary**

# Photo Highlights

**Maricopa County delegates (L. to R.) Richard O. F**
**Roger G. Boylan, C. Truman Davis, and MacDonald W**

Robles explains an issue to American Medical Student ociation Delegates Pat Ahearn (left) and Burke Robinson rMA's Misty Coumbe looks on.

Counting Ballots—(L. to R.) Bruce Curtis, John Oakley, Rudy Kirschner, and John Clymer.

P Delegates (L. to R.) James Hurley, John Heyer, AAFP dent, and Paul Kliewer, vice-president.

Carol and Dr. Ron Christ of Yuma.

Housestaff—Bill C. Bilnoski, Maricopa County and Jack Potts, Good Samaritan Hospital.

Delegates Jay S. Fleishman, Arizona Society of Patholo and Stuart I. Holtzman, M.D., Arizona Society of Phys Medicine and Rehabilitation.

All eyes are on the floor.

Robert Anderson, M.D., James Hill, M.D., Joseph Wha M.D., Gary Henderson, M.D.—Pima County Delegation

# Officers

President, John E. Oakley, M.D.

ce President, Earl J. Baker, M.D.

President-Elect, Neopito L. Robles, M.D.

Treasurer, Gary L. Henderson, M.D.

cretary, Richard L. Collins, M.D.

Rachel and Pete Robles

William G. Payne, recipient of the 1
A.H. Robins Physician Award for Community Service.

250 Years of Medical Expertise: New members of ArMA's 50 Year Club (L. to R.) W. Stanley Kitt, Louis P. Lutfy, Arthur J. Present, James J. Riordan, and George K. Rogers.

The Presidential Image—Clyde and Margaret Kurtz accept the presidential portrait.

Joey Nell and Bob Leonard with Dennis and Jeanne Weil

# Past Presidents' Luncheon

Fellowship, presidential style

(L. to R.) James O'Hare, Dermont Melick, and Clarence Yount

(L. to R.) Carlos Craig and Arnold Dysterheft

John Clymer, Richard Flynn, and Clyde Kurtz

o R.) Edward Sattenspiel, John Clymer, William Scott

# *ArMA Reports*

**The minutes appearing in this section have been condensed. A complete copy of the minutes will be sent to any member requesting them.**

## EXECUTIVE COMMITTEE

The Executive Committee met on May 21, 1982.

The committee was updated on the progress of the development of the rules and regulations for the Arizona Health Care Cost Containment System. Mr. Robinson reported on his role on a special committee formed to review the entities being considered to administor the system.

It was moved and carried that the Arizona Medical Association offer the sum of $150.00 to the Arizona Chapter of the American Association of Medical Assistants, Inc., said sum to be used in the financing of a reception for Betty Mays, CMA, during her installation as president of the national organization in Houston, Texas, in September 1982.

The committee reviewed the agendas for the Board of Directors meeting and the manual for the meeting of the House of Delegates. Attention was brought to speical matters which would be considered in the normal course of business.

It was moved and carried to approve the following 1982-83 meeting scheduled for the Executive Committee of the Arizona Medical Association:

Friday, June 18, 1982, 6:30 p.m., Phoenix.
Friday, August 20, 1982, 6:30 p.m., Phoenix.
Friday, September 24, 1982, 6:30 p.m., Phoenix.
Saturday, October 23, 1982, 8:00 a.m., Tucson.
Friday, November 19, 1982, 6:30 p.m., Phoenix.
Friday, January 21, 1983, 6:30 p.m., Phoenix.
Friday, February 18, 1983, 6:30 p.m., Phoenix.
Friday, March 25, 1983, 6:30 p.m., Phoenix.
Friday, April 22, 1983, 6:30 p.m., Phoenix.
Friday, May 20, 1983, 7:00 a.m., Tucson.

It was moved and carried that requests for exemption from ArMA's building fund assessment would be routinely routed to the Association treasurer, allowing him to make personal contact with the requesting physician regarding circumstances, basis for request, etc., following which such request, together with the treasurer's recommendation, would be presented to the Executive Committee for appropriate action.

## BOARD OF DIRECTORS

The Board of Directors met on May 21, 1982.

ArMA Auxiliary President Mrs. Janet Hoffmann reported to the board on the auxiliary's activities of the past year.

Dr. Meredith reported on the progress of securing new members for ArMPAC.

It was moved and carried to approve the 1982-83 Board of Directors' meeting schedule as follows:

August 15, 1982, Sunday, 9:00 a.m., Prescott.
October 23, 1982, Saturday, 10:00 a.m., Tucson.
January 22, 1983, Saturday, 10:00 a.m., Phoenix.
March 26, 1983, Saturday, 10:00 a.m., Phoenix.
May 20, 1983, Friday, 8:00 a.m., Tucson.
May 21, 1983, Saturday, 12 noon, Tucson.

It was determined that Mr. Robinson or the acting president would provide reports on the meetings they attend of the Arizona Hospital Association.

It was moved and carried to accept and ratify the minutes of the Executive Committee meeting held March 26, 1982 and April 23, 1982.

It was moved and carried to accept the recommendations of the Executive Committee dated April 30, 1982, as they related to the Lawrence-Leiter & Company managment consultant's report.

Also, it was determined that, although it is agreed no contract with the Association's current Executive Director is necessary, should a director change occur at some future time, a formal employment contract with the new person would be entered into by the Association.

Considering the recommendations in the management consultant's report, the board also discussed the feasibility of selling mailing labels; and it was the consensus of the membership that such sale would not be of a membership list but of the capacity to reproduce labels in bulk on request.

It was moved and carried to approve the sale of mailing labels currently maintained by the Association to all individuals or organizations
requesting.

Dr. Oakley spoke about the suppo
Association has given to candidate
offices in the American Me
Association. It was his feeling that
ArMA members are not automati
AMA members, the various compo
societies should be apprised of f
Association financial support
members who are candidates for
office.

Allan J. Stanton, Esq., ArMA's lob
reported to the board on the
legislative session. He felt medicine
made some progress during the yea
had faced grave difficulties with ma
the legislators, some of which c
continue in the year to come.
Stanton indicated great concern
physicians must become aware
involved, must begin to react
quickly and to do a better job of i
planning in order to achieve de
results in legislative matters. He fu
advised that internal changes
being made which would assis
allowing his activities for ArMA to
more smoothly and that he woul
most happy and willing to meet
speak with groups of physicians i
effort to bring about total awarene
medicine's image and the role it w
likely to play in the passage
legislation to effect better health ca
Arizona.

Kevin Walker briefly updated the b
on the activities relating to the Ariz
Health Care Cost Containment Sys
the most recent meetings of ArMA'
Hoc Indigent Health Care Comm
with the members of the var
advisory committees, and the statu
the rules and regulations.

Misty Coumbe reported to the boar
the Maricopa County Jail certifica
which had been done at the reque
the AMA, advising that in June 198
jail had failed to meet some of
standards and had been granted a
within which to bring about the chan
required. A survey done recently at
jail indicates that these deficien
have now been corrected and it app
that they are now in conformance
all specifications previously delinea

It was moved and carried that
Arizona Medical Association ag
with and endorses the position take
the American College of Sp
Medicine concerning the use
steroids. Which reads as follows:

"1) The administration of anab
androgenic steroids to healthy hum
below age 50 in medically appro
therapeutic doses often does not of it
bring about any signific
improvements in strength, aer

ırance,lean body mass, or body ıht.

There is no conclusive scientific ence that extremely large doses of oolic-androgenic steroids either aid inder athletic performance.

The prolonged use of oral anabolic-rogenic steroids ($C_{17}$-alkylated vatives of testosterone) has resulted ver disorders in some persons. Some these disorders are apparently rsible with the cessation of drug je, but others are not.

The administration of anabolic-rogenic steroids to male humans result in a decrease in testicular size function and a decrease in sperm duction. Although these effects ear to be reversible when small es of steroids are used for short ods of time, the reversibility of the cts of large doses over extended ods of time is unclear.

Serious and continuing effort uld be made to educate male and ale athletes, coaches, physical cators, physicians, trainers, and the eral public regarding the onsistent effects of anabolic-rogenic steroids on improvement of an physical performance and the ential dangers of taking certain ns of these substances, especially in e doses, for prolonged periods."

## BOARD OF DIRECTORS

Board of Directors meeting on May 1982 moved and carried to confirm following committee appointments:

: The single asterisk indicates reappoint-. The double asterisk indicates new intments. Those without asterisks are ous year appointments whose terms are in effect and are listed for information

### icles of Incorporation and Bylaws

| | |
|---|---|
| rles E. Henderson, M.D.* | 1981-84 |
| rman | 1982-83 |
| ard L. Collins, M.D. | 1982-83 |
| etary | |
| p E. Dew, M.D. | 1981-83 |
| B. Jarrett, M.D. | 1981-84 |
| K. Kerr, M.D.* | 1982-85 |
| E. Oakley, M.D. | 1982-83 |
| ident | |
| pito L. Robles, M.D. | 1982-83 |
| ident-Elect | |
| avid Rummel, M.D. | 1981-83 |
| ard Sattenspiel, M.D. | 1981-84 |
| am C. Scott, M.D.* | 1982-85 |
| O. Ward, M.D. | 1981-83 |
| rd F. Worthen, M.D. | 1981-84 |

### Benevolent and Loan Fund

| | |
|---|---|
| ur V. Dudley, Jr., M.D.* | 1982-85 |
| rman | 1982-83 |
| William L. Bunting, M.D. | 1981-84 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Daniel C. DeBoer, M.D.* | 1982-85 |
| Andrew M. Goldner, Ph.D.* | 1982-85 |
| Gary L. Henderson, M.D. | 1982-83 |
| Treasurer-Specified | |
| Marcus M. Marble, Jr., M.D.** | 1982-85 |
| George S. Naifeh, Jr., M.D. | 1981-84 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| Cecil C. Vaughn, Jr., M.D.* | 1982-85 |
| Richard D. Zonis, M.D. | 1981-84 |

### Environmental Health Committee

| | |
|---|---|
| Willis A. Warner, M.D.* | 1981-84 |
| Chairman | 1982-83 |
| Herbert K. Abrams, M.D. | 1981-84 |
| Floyd K. Berk, M.D. | 1981-84 |
| Earl M. Best, M.D. | 1981-84 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Robert E. Eckardt, M.D. | 1981-84 |
| Norman A. James, M.D. | 1981-84 |
| Robert L. Levitin, M.D.* | 1982-85 |
| Lloyd T. Lorbeer, M.D.** | 1982-85 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Kent L. Pomeroy, M.D. | 1981-84 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| James L. Schamadan, M.D.* | 1982-85 |
| Donald C. Waugh, M.D.** | 1982-85 |

### Finance Committee

| | |
|---|---|
| Gary L. Henderson, M.D. | 1982-83 |
| Chairman, Treasurer-Specified | |
| L. Philip Carter, M.D. | 1981-84 |
| John T. Clymer, M.D.** | 1982-85 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Clifford D. DeBenedetti, M.D.** | 1982-85 |
| Richard L. Dexter, M.D.** | 1982-85 |
| John W. Kennedy, M.D. | 1980-83 |
| Robert F. Lorenzen, M.D. | 1981-84 |
| Christopher T. Maloney, M.D. | 1980-83 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| John B. Sawyer, M.D. | 1980-83 |
| Seymour I. Shapiro, M.D. | 1980-83 |
| Walter K.Sosey, M.D. | 1981-84 |
| Harold C. Tretbar, M.D. | 1981-84 |

### Governmental Services

| | |
|---|---|
| H. Belton P. Meyer, M.D.* | 1981-84 |
| Chairman | 1982-83 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Robert F. Crawford, M.D. | 1981-84 |
| Suzanne E. Dandoy, M.D. | 1981-84 |
| John A. Davis, M.D.* | 1982-85 |
| Lattimer H. Ford, M.D. | 1981-84 |
| Louis C. Kossuth, M.D. | 1980-83 |
| Donald R. Miles, M.D. | 1981-84 |
| William J. Moore, M.D.** | 1982-85 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Leonard F. Peltier, M.D. | 1981-84 |
| Wallace A. Reed, M.D.* | 1982-85 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| Robert St. John, M.D.* | 1982-85 |
| Lawrence J. Shapiro, M.D. | 1981-84 |
| Bruce H. Shelton, M.D. | 1980-83 |
| Anthony F. Vuturo, M.D.** | 1982-85 |
| George S. Woodard, Jr, M.D. | 1981-84 |

### Grievance Committee

| | |
|---|---|
| Clyde W. Kurtz, M.D. | 1982-83 |
| Chairman, Past Pres.-Specified | |
| Richard L. Collins, M.D. | 1982-83 |
| Philip E. Dew, M.D. | 1981-84 |
| Morton H. Dubnow, M.D. | 1981-84 |
| Arnold H. Dysterheft, M.D. | 1981-84 |
| Robert L. Fox, M.D. | 1981-84 |
| David E. Glow, M.D. | 1980-83 |
| Manuel M. Guerrero, III, M.D.** | 1982-85 |
| John B. Jamison, M.D. | 1981-84 |
| James N. Lane, M.D. | 1980-83 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Albert J. Ochsner, M.D. | 1980-83 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| Stanley R. Shorb, M.D. | 1981-84 |

### Health Manpower Committee

| | |
|---|---|
| Laurence M. Linkner, M.D.* | 1982-85 |
| Chairman | 1982-83 |
| Henry Bock, M.D.** | 1982-85 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Bruce N. Curtis, M.D. | 1980-83 |
| Marilyn J. Heins, M.D. | 1981-84 |
| F.C. Lepperd, Jr., M.D. | 1981-84 |
| Marcus M. Marble, M.D.* | 1981-85 |
| Robert R. Maxwell, M.D. | 1980-83 |
| Dermont W. Melick, M.D.** | 1982-85 |
| Alex Newman, M.D. | 1981-84 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Stuart L. Posner, M.D. | 1980-83 |
| Sara S. Reynolds, M.D. | 1980-83 |
| Gordon L. Ritter, D.O.** | 1982-85 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| Melvin I. Roth, M.D. | 1980-83 |
| George B. Rowland, M.D. | 1981-84 |
| Gary Waddington, M.D.** | 1982-85 |
| R. Wayne Wood, M.D. | 1982-85 |

### Legislative

| | |
|---|---|
| Clyde W. Kurtz, M.D.** | 1982-85 |
| Chairman | 1982-83 |
| Earl J. Baker, M.D.** | 1982-85 |
| Wayne E. Beck, M.D.* | 1982-85 |
| W. Scott Chisholm, M.D.* | 1982-85 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Thomas I. Crawford, M.D. | 1981-84 |
| Robert T. Daehler, M.D. | 1980-83 |
| Richard Darby, D.O. | 1980-83 |
| Kenneth A. Dregseth, M.D. | 1981-84 |
| Richard O. Flynn, M.D. | 1981-84 |
| Lawrence Green, M.D. | 1980-83 |
| Duayne T. Hutchinson, M.D.** | 1982-85 |
| Louis J. Kettel, M.D. | 1981-84 |
| William E. Kuchar, M.D. | 1981-84 |

| | |
|---|---|
| George Lastnick, M.D. | 1981-84 |
| Richard McGill, D.O. | 1981-84 |
| Joseph B. McNally, M.D.* | 1982-85 |
| James R. Meador, Jr., M.D.** | 1982-85 |
| Thomas F. Moore, M.D. | 1981-84 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| David A. Ogden, M.D. | 1981-84 |
| R. Michael O'Harra, M.D. | 1982-85 |
| Kent L. Pomeroy, M.D. | 1980-83 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| George B. Rowland, M.D.** | 1982-85 |
| Frederic L. Ruskin, M.D. | 1980-83 |
| Robert D. Sanford, M.D.* | 1981-85 |
| Edward Sattenspiel, M.D. | 1980-83 |
| James L. Schamadan, M.D. | 1981-84 |
| William C. Scott, M.D.** | 1982-85 |
| Burt S. Strug, M.D. | 1981-84 |
| Glen L. Sublette, M.D. | 1980-83 |
| Thomas H. Taber, Jr., M.D.** | 1982-85 |
| Dennis E. Weiland, M.D. | 1981-84 |
| Richard D. Zonis, M.D.** | 1982-85 |

### Long Range Planning Committee

| | |
|---|---|
| Earl J. Baker, M.D., Chairman | 1982-83 |
| Vice President-Specified | |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Suzanne E. Dandoy, M.D.* | 1982-84 |
| Richard L. Dexter, M.D.* | 1982-85 |
| Arnold H. Dysterheft, M.D.* | 1982-83 |
| Alan L. Gordon, M.D.* | 1982-84 |
| Laurance B. Nilsen, M.D.* | 1982-85 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Wilfred M. Potter, M.D.* | 1982-83 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| Frederick C. Scott, M.D.* | 1982-84 |
| Robert E.T. Stark, M.D.* | 1982-85 |

### Maternal and Child Health Care

| | |
|---|---|
| William C. Scott, M.D.* | 1982-85 |
| Chairman | 1982-83 |
| Frederick W. Baum, M.D. | 1981-84 |
| James F. Blute, III, M.D.* | 1982-85 |
| William H. Burke, M.D.** | 1982-85 |
| William Carlile, M.D. | 1981-84 |
| Michael S. Clement, M.D. | 1981-84 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Jorge A. Covarrubias, M.D.** | 1982-85 |
| Owen L. Cranmer, M.D. | 1980-83 |
| Scott Crawford, M.D.** | 1982-85 |
| William J. Daily, M.D. | 1980-83 |
| Jack H. Demlow, M.D. | 1981-84 |
| Raymond J. Jennett, M.D. | 1980-83 |
| John V. Kelly, M.D. | 1980-83 |
| Ravi Koopot, M.D.** | 1982-85 |
| Walter K. Lippard, M.D. | 1981-84 |
| Lester E. Mayes, Jr., M.D.** | 1982-85 |
| H. Belton P. Meyer, M.D.* | 1982-85 |
| Sister Alice Montgomery* | 1982-85 |
| William J. Moore, M.D.* | 1982-85 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| William G. Payne, M.D. | 1981-84 |
| Jogeswar Rath, M.D.** | 1982-85 |
| Hermann S. Rhu, Jr., M.D. | 1981-84 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |

| | |
|---|---|
| George H. Schade, M.D. | 1980-83 |
| Lewis S. Shenker, M.D.* | 1982-83 |
| William A. Susong, M.D.* | 1982-85 |
| Paul A. Whitmore, M.D.* | 1982-85 |
| Jack H. Wilson, M.D.* | 1982-85 |
| Herbert L. Winograd, M.D. | 1980-83 |
| John R. Young, M.D. | 1981-84 |

### Medical Economics

| | |
|---|---|
| Theodore L. Mobley, M.D. | 1980-83 |
| Chairman | 1982-83 |
| James R.Callison, M.D. | 1980-83 |
| William G. Chaffee, M.D. | 1980-83 |
| Sam . Colachis, Jr., M.D. | 1981-84 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Richard H. Daley, M.D. | 1981-84 |
| James L. Frey, M.D.* | 1982-85 |
| Thomas W. Glenn, M.D. | 1981-84 |
| Edwin G. Goldstein, M.D. | 1981-84 |
| Lucy S. Hernried, M.D. | 1980-83 |
| John F. Kahle, M.D. | 1981-84 |
| Laurence M. Linkner, M.D. | 1981-84 |
| Bruce A. Mallin, M.D. | 1981-84 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Jeffrey A. Connor, M.D.** | 1982-85 |
| Joseph N. Portnoy, M.D.** | 1982-85 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| Ernesto B. Rodis, M.D.** | 1982-85 |
| Hugh C. Thompson, III, M.D. | 1981-84 |
| Richard A. Silver, M.D.** | 1982-85 |
| Sol Z. Weinzweig, M.D.** | 1982-85 |
| John A. Wilson, M.D. | 1981-84 |
| R. Jack M. Zeluff, M.D. | 1981-84 |

### Medical Education

| | |
|---|---|
| Charles A. Trahern, M.D.* | 1980-83 |
| Chairman | 1982-83 |
| Robert M. Anderson, MD. | 1981-84 |
| Richard L. Collins, M.D. | 1982-83 |
| Secretary | |
| Robert M. Crowell, M.D. | 1981-84 |
| Gordon D. Davis, M.D.** | 1982-85 |
| Kenneth A. Dregseth, M.D* | 1982-85 |
| Jack H. Dunn, M.D.** | 1982-85 |
| Seneca L. Erman, M.D.** | 1982-85 |
| Palmer C. Evans, M.D.* | 1982-85 |
| Nathan W. Goff, Jr., M.D. | 1982-85 |
| Samuel Goldfein, M.D. | 1981-84 |
| Stuart M. Gould, Jr., M.D. | 1981-84 |
| Harry W. Hale, Jr., M.D.* | 1982-85 |
| Robert E. Hastings, M.D.* | 1982-85 |
| H. Peter Hernried, M.D.* | 1982-85 |
| Stanley D. Johnsen, M.D.** | 1982-85 |
| Kent K. Kleinhauf, M.D.** | 1982-85 |
| Daniel J. Kuntz, M.D.** | 1982-85 |
| Jack M. Layton, M.D. | 1980-83 |
| Edward J. Lefeber, Jr., M.D.** | 1982-85 |
| Donald E. McHard, M.D.** | 1982-85 |
| George H. Mertz, M.D. | 1981-84 |
| James R. Mouer, M.D.* | 1982-85 |
| Alex Newman, M.D.* | 1982-85 |
| John E. Oakley, M.D. | 1982-83 |
| President | |
| Kent L. Pomeroy, M.D.** | 1982-85 |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| Robert St. John, M.D.** | 1982-85 |
| William Selezinka, M.D.** | 1982-85 |

| | |
|---|---|
| Lawrence Z. Stern, M.D. | 19 |
| Ashton B. Taylor, M.D. | 19 |
| Bryan R. Updegraff, M.D. | 19 |
| Ben A. Vanderwerf, M.D. | 19 |
| Thomas A. Vorpahl, M.D. | 19 |
| Albert G. Wanger, M.D. | 19 |
| Walter S. Williams, M.D. | 19 |
| George S. Woodard, Jr., M.D. | 19 |
| Noel A. Yannessa, M.D. | 19 |

### Physician's Health Committee

| | |
|---|---|
| Thomas E. Bittker, M.D.* | 19 |
| Chairman | 19 |
| Paul B. Borgesen, M.D. | 19 |
| James E. Campbell, M.D.** | 19 |
| Richard L. Collins, M.D. | 19 |
| Secretary | |
| Everett W. Czerny, MD.* | 19 |
| Robert T. Dean, Jr., M.D.** | 19 |
| Thomas W. Edwards, M.D. | 19 |
| Dean L. Gerstenberger, M.D. | 19 |
| Howard S. Gray, M.D. | 19 |
| James J. Kennedy, M.D. | 19 |
| Howard W. Kimball, M.D. | 19 |
| Eugene J. Kinder, M.D.** | 19 |
| B. Ross Landess, M.D. | 19 |
| Laurence M. Linkner, M.D. | 19 |
| Edward Meshorer, M.D. | 19 |
| John E. Oakley, M.D. | 19 |
| President | |
| Patrick T. Phalen, M.D. | 19 |
| Hugh W. Randel, M.D. | 19 |
| Sara S. Reynolds, M.D. | 19 |
| Neopito L. Robles, M.D. | 19 |
| President-Elect | |
| Stephen C. Scheiber, M.D.* | 19 |
| Houshang Semino, M.D.** | 19 |
| David Sherman, M.D. | 19 |
| Michael S. Smith, M.D.** | 19 |
| Walter B. Tomlinson, M.D. | 19 |
| Mark A. Wellek, M.D. | 19 |
| Lincoln H. Westman, M.D. | 19 |
| Louis E. Young, M.D. | 19 |
| Victor J. Zannis, M.D. | 19 |

### Professional Committee

| | |
|---|---|
| Joseph W. Hanss, Jr., M.D.* | 19 |
| Chairman | 19 |
| William E. Cain, M.D. | 19 |
| Richard L. Collins, M.D. | 19 |
| Secretary | |
| Murray M. DeArmond, M.D. | 19 |
| John C. Flannery, M.D. | 19 |
| Richard J. Flindall, M.D.** | 19 |
| Thomas P. Foerster, M.D. | 19 |
| Robert L. Hagan, M.D. | 19 |
| Barry A. Kriegsfeld, M.D. | 19 |
| William E. Kuchar, M.D.** | 19 |
| Donald B. Kunkel, M.D.* | 19 |
| James G. Lawson, m.D.* | 19 |
| Warren L. Niccum, M.D. | 19 |
| John E. Oakley, M.D. | 19 |
| President | |
| Tom D. Powell, M.D. | 19 |
| Howard J. Reuben, M.D. | 19 |
| Neopito L. Robles, M.D. | 19 |
| President Elect | |
| George J. Samuels, M.D.** | 19 |
| James B. Scott, M.D.* | 19 |
| William J. Thomas, M.D. | 19 |
| Marguerite G. Wuebker, M.D.** | 19 |
| Leon Zeitzer, M.D.** | 19 |

### Public Relations

| | |
|---|---|
| n T. Clymer, M.D. | 1980-83 |
| irman | 1982-83 |
| shall B. Block, M.D. | 1980-83 |
| rge F. Brown, M.D. | 1981-84 |
| ald L. Christ, M.D. | 1981-84 |
| John T. Clymer | 1980-83 |
| ard L. Collins, M.D. | 1982-83 |
| retary | |
| n A. Daivs, M.D.** | 1982-85 |
| an DeVries, Medical Editor | 1981-83 |
| n G. Goldstein, M.D. | 1981-84 |
| L. Gordon, M.D. | 1981-84 |
| am E. Ingram, M.D. | 1980-83 |
| . Krigsten, M.D.** | 1982-85 |
| n E. McReynolds, M.D. | 1981-84 |
| n B. Moore, M.D.** | 1982-85 |
| n E. Oakley, M.D. | 1982-83 |
| ident | |
| oito L. Robles, M.D. | 1982-83 |
| ident-Elect | |
| ald P. Spark, M.D. | 1981-84 |
| hen R. Stein, M.D.* | 1982-85 |

### Publishing Committee

| | |
|---|---|
| shall B. Block, M.D. | 1982-83 |
| or-in-Chief-Specified | |
| ell R. Brown, M.D. | 1981-84 |
| rge E. Burdick, M.D. | 1981-84 |
| ard L. Collins, M.D. | 1982-83 |
| etary | |
| neth B. Desser, M.D. | 1981-84 |
| S. Fleishman, M.D.** | 1982-85 |
| amin K. Harris, M.D.* | 1982-85 |
| than M. Levy, M.D. | 1980-83 |
| am B. McGrath, M.D. | 1981-84 |
| E. Oakley, M.D. | 1982-83 |
| ident | |
| oito L. Robles, M.D. | 1982-83 |
| dent-Elect | |
| V. Smith, M.D. | 1981-84 |
| er K.H. Sonntag, M.D.** | 1982-85 |
| ey C. Werner, M.D. | 1981-84 |

### Scientific Assembly

| | |
|---|---|
| rt I. Holtzman, M.D.* | 1982-85 |
| rman | 1982-83 |
| sh C. Anand, M.D.* | 1982-85 |
| J. Baker, M.D. | 1982-83 |
| President-Specified | |
| d K. Berk, M.D. | 1980-83 |
| nis W. Berry, M.D. | 1981-84 |
| hall B. Block, M.D.** | 1982-85 |
| es M. Byers, III, M.D. | 1981-84 |
| cott Chisholm, M.D.* | 1982-85 |
| G. Cohen, M.D. | 1980-83 |
| ard L. Collins, M.D. | 1982-83 |
| len L. Crouch, M.D.* | 1982-85 |
| ge W. Drach, M.D. | 1981-84 |
| S. Fleishman, M.D.** | 1982-85 |
| othy R. Harrington, M.D. | 1981-84 |
| nas F. Hartley, M.D. | 1981-84 |
| es M. Hurley, M.D. | 1980-83 |
| Levy, M.D. | 1980-83 |
| S. Lisboa, M.D. | 1980-83 |
| Mao, M.D.* | 1982-85 |
| niel Morris, M.D.* | 1982-85 |
| erbert Nathan, M.D. | 1980-83 |
| am S. Nevin, M.D. | 1981-84 |
| Newman, M.D. | 1981-84 |
| E. Oakley, M.D. | 1982-83 |
| dent | |
| Neopito L. Robles, M.D. | 1982-83 |
| President-Elect | |
| Marvin C. Schneider, M.D.* | 1982-85 |
| Richard A. Silver, M.D.* | 1982-85 |
| Donald P. Speer, M.D. | 1981-84 |
| Lawrence Z. Stern, M.D. | 1980-83 |
| Luis S. Tan, M.D. | 1980-83 |
| Jerome H. Targovnik, M.D. | 1981-84 |
| Wilber C. Voss, M.D. | 1980-83 |
| Donald J. Ziehm, M.D. | 1980-83 |

### ArMPAC Board of Directors Term 1982-83

Daniel T. Meredith, M.D.*, Chairman
Lloyd Anderson, M.D.*
Robert C. Briggs, M.D.*
Mrs. L. Philip Carter*
Richard L. Collins, M.D., Secretary
Kent E. Durfee, M.D.*
Ruth L. Eckert, M.D.**
Mrs. Ronald Goodsite*
Robert L. Hagan, M.D.*
Gary L. Henderson, M.D.*
Don W. Langston, M.D.*
Kennth A. Lucas, M.D.**
William J. Mangold, Jr., M.D.*
James R. Meador, Jr., M.D.**
Thomas F. Moore, M.D.*
John E. Oakley, M.D., President
Dwight H. Porter, Jr., M.D.**
Mrs. Joseph H. Reno*
Neopito L. Robles, M.D.,
President-Elect
Iain A.D. Todd, M.D.**
Mrs. Hubert Wuesthoff*
John R. Young, M.D.**

### Ad Hoc Awards Committee Term 1982-83

Richard L. Dexter, M.D.*, Chairman
Richard L. Collins, M.D., Secretary
John F. Kahle, M.D.*
Clyde W. Kurtz, M.D.**
John E. Oakley, M.D., President
Neopito L. Robles, M.D.,
President Elect

### Ad Hoc Indigent Health Care Committee - Term 1982-83

John E. Oakley, M.D.,
President and Chairman
Earl J. Baker, M.D.*
Richard L. Collins, M.D.,
Secretary
Suzanne E. Dandoy, M.D.*
Marc L. Lee, M.D.*
Neopito L. Robles, M.D.
President-Elect
William C. Scott, M.D.*
Bruce H. Shelton, M.D.*
Walter K. Sosey, M.D.*
Herbert L. Winograd, M.D.*

### Ad Hoc Malpractice Insurance Crisis Committee Term 1982-83

Edward Sattenspiel, M.D.*, Chairman
Jonathan E. Askew, M.D.**
Lewis M. Brickler, D.O.*
Jack E. Brooks, M.D.*
John C. Bull, Jr., M.D.*
Richard L. Collins, M.D.,
Secretary
Richard O. Flynn, M.D.*
Mark Gross, M.D.*
Mark Ivey, Jr., M.D.*
Paul T. Lenio, M.D.*
Vernor F. Lovett, M.D.*
Keith E. McReynolds, M.D.*
John E. Oakley, M.D., President
Neopito L. Robles, M.D.
President-Elect
Donald F. Schaller, M.D.*
Robert V. Stephens, M.D.*
Neil O. Ward, M.D.*

It was moved and carried that the membership of the Ad Hoc Committee on Hospital Services be left to the discretion of the president, with confirmation at some future date by the Board of Directors.

It was moved and carried that the Arizona Medical Association will sponsor participation of Gregory Hanss in the youth conference on health promotion sponsored by the Arizona Recovery Centers Association and scheduled for June 4-6, 1982.

### Benevolent and Loan Fund Committee

The Benevolent and Loan Fund Committee met on May 22, 1982.

Dr. Dudley reported that $6,000 was awarded to first-year medical students in 1981. This year there is $28,000 available, derived from interest on ArMA dues. It is to be allocated to first, second, third and fourth year students. Dr. Goldner sought direction from the committee in making the selection of the grant recipients.

The members felt that the grants should continue to be awarded on the basis of need, with the intent to practice in Arizona and being a first-year student among the top criteria. Students attending out-of-state medical schools will continue to be eligible. It was agreed that some students need more financial assistance than others, and that grants should not be necessarily limited to $750. It was pointed out that this could only be done by a resolution presented to the House of Delegates, and it was decided to stay with the present policy for now.

In the past, requests for additional funds have been received. Members agreed that since most medical students need financial assistance, students should be eligible to reapply in subsequent years.

The Arizona Hospital Association is seeking donations for the Salsbury Scholarship Fund. It was agreed that ArMA might mention the fund in Medical Memos for those physicians who feel they would like to donate to it, but that no money would be allocated from our fund to theirs.

It was decided to hold back two grants to develop a discretionary fund for urgent situations, i.e., a student having to drop out of medical school because of a lack of funds. The recommendation to allocate these funds would come from Dr. Goldner, who has acess to this type of information.

The Finance Committee has recommended that this committee change the grant program to a "revolving loan" program where students would return the money after entering practice, making it possible to provide more grants in future years. It was pointed out that a loan program could become very involved as far as payments and collections are concerned. However, it was agreed that the matter will be investigated further.

Dr. Collins suggested that Valley Bank be contacted and asked if they would match the Roman Mislicky Award amount to provide for an additional grant. Members agreed that a request should be sent.

Dr. Goldner reviewed the screening procedure. He also suggested that ArMA talk with Valley Bank about the feasibility of some type of guaranteed loan program.

## PHYSICIAN'S HEALTH COMMITTEE

The Physician's Health Committee met on May 26, 1982.

The committee discussed their ongoing relationship with the Board of Medical Examiners and it was agreed that continued coordination, cooperation and open communication on an informal basis was worthwhile for both parties.

The pending cases were discussed. The planning of a fall meeting to be conducted by the Center for the Well-Being of Health Professionals was reported upon. The dates of Saturday, October 2 or October 9 have been requested, but no response has been received yet. The committee also discussed potential invitees to the meeting and it was the general consensus that hospital chiefs of staff and/or chairman of hospital credentials committees should be included.

Dr. Bittker presented to the committee a proposed letter and meeting agenda for the committee and various professional groups in the state. The members were responsive to establishing this type of liaison and decided the date should be selected and invitations extend to various groups which would include, the Bar, Dental, Osteopathic and Pharmaceutical Associations, as well as nurses, physicians' assistants, teachers, professors, hospital administrators and judges.

The Tucson members were urged to attend the July meeting of the southern Arizona Chiefs of Staff.

## HEALTH MANPOWER COMMITTEE

The Health Manpower Committee met on June 1, 1982.

Kevin Walker reported on four bills passed by the Legislature pertaining to health manpower.

HB 2175 which mandates that hospitals must provide for staff privileges for podiatrists, subject to nondiscriminatory rules and regulations.

HB 2117 which states that provisional licenses will be issued to anyone who can pass a midwifery examination given by the Department of Health Services. A midwife with a provisional license, who successfully delivers 15 women in childbirth, would become fully licensed.

HB 2202 which extends the life of the board and allows naturopaths to continue to practice with no changes in their scope of practice.

HB 2326 which states that chiropractors will now have a specialty in physiotherapy and traction for those who show additional education and pass an examination given by the Chiropractic Board. Report received for information only.

Dr. Linkner reported that the manpower study issue is most important business before the committee. He said that there is a mandate to assess the medical manpower needs for the state. All current statistics used for documentation (primarily by the federal government are out-of-date). After discussion on how best to begin the project it was moved and carried that staff assemble the available medical manpower statistics for MDs and DOs and present it back to the committee.

The Department of Health and Human Services has asked for the Association's review of the health manpower shortage area of Bisbee. It was moved and carried that we support the county society in this situation.

Dr. Linkner explained the "Christmas tree" process which incorporated the Hemeopathy Board onto the Physical Therapists' bill. It was stated that Senator Robert Usdane, Chairman of the Senate Health Committee, has agreed to request an Attorney General's opinion as to the germaneness of this procedure. Due to the activities of close of session, Senator Usdane has not pursued this opinion but Dr. Linkner said that he would get back in touch with the Senator. Dr. Linkner added that we are the only state in the Union that has a board of Homeopathy. Received for information only.

It was moved and carried tha
committee chairman prepare an
for Arizona Medicine and that it s
contain what he deems of signi
interest to the committee and oth

## *Future Medical Meetin*

The following institutions and organization
been accredited for their continuing m
education programs by the Arizona M
Association and/or the Accreditation Coun
Continuing Medical Education.

Arizona Chapter, American Cancer Societ
Arizona Heart Institute
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona
Lung Association
Walter O. Boswell Memorial Hospital
Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center
of Northern Arizona
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoen
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Ph
St. Luke's Hospital & Medical Center, Pho
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Prog
(THMEP) Tucson
University of Arizona College of Medicine,
Tucson
Veterans Administration Medical
Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations
produce a variety of continuing medical educ
programs. Each accredited institution
organization is responsible for designating wh
these programs meet ArMA's requirement
Category 1 credit. Physicians who particip
programs which are designated Category
accredited institutions will receive Category 1
toward the ArMA Certificate in CME and the A
Physician's Recognition Award.

# Critical Care: Back to Basics, II

a seminar on the identification and treatment of ICU patients
with respiratory difficulties, including

- pre-ventilator management
- types of ventilator equipment and their use
- common complications and intervention
- monitoring ventilator care
- weaning patients from ventilatory assistance . . . plus case studies

**Saturday, August 28, 1982**
**The Arizona Biltmore Resort, Phoenix**

sponsored by the Department of Respiratory Care Services

**St. Luke's Medical Center, Phoenix**

*for additional information, contact:*

Christine Campbell
Medical Meeting Planner
St. Luke's Medical Center
525 N. 18th Street
Phoenix, Arizona 85006
(602) 251-8402

## JULY

**Annual Coconino County Medical**
**ety Summer Medical Seminar**
30 and 31. Little America Motor Hotel,
staff, Arizona. Sponsor: Arizona Medical
oc. & Coconino County Medical Society.
tact: Lana L. Holstein, M.D., P.O. Box
Flagstaff, Arizona 86002. Approved for
ours of Category 1 credit.

**nced Cardiac Life Support**
**ertification/Provider Course**
13-15. Arizona Medical Association
ce, Phoenix, Arizona. Sponsor: ACLS, AZ
iate of the Amer. Heart Assoc., ArMA.
tact: Beverly Richter, Arizona Medical
ociation, 810 West Bethany Home Road,
enix, Arizona 85013. Provider course
oved for 21 hours of Category 1 credit
Recertification approved for 13 hours.

## AUGUST

**Advanced Cardiac Life Support Recertification/Provider**

August 12-14. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc. & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Critical Care: Back to Basics**

August 14. Alamos Resort Hotel, Scottsdale. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, Phoenix, Arizona 85006.

## SEPTEMBER

**Advanced Cardiac Life Support**

September 15-17. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, AZ Affiliate Amer. Heart Assoc. & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

## OCTOBER

**The Under-Achieving Child Behavorable Health**

October 8. The Registry Resort, Scottsdale. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital Medical Center, 525 North 18th Street, Phoenix, AZ 85006. Approved for hour per hour Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
October 12-14. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, AZ Affiliate Amer. Hospital Assoc. & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification apprroved for 13 hours.

**Fourth Annual Seeing Our Way Clear**
October 23. Arizona Biltmore, Phoenix. Sponsor: St. Luke's Hospital and Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital and Medical Center, Phoenix, Arizona 85006. Approved for hour per hour Category 1 credit.

## NOVEMBER

**Advanced Cardiac Life Support Recertification/Provider**
November 10-12. Arizona Medical Association Offices, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**XXX Annual Convention of the Medical Society of the United States and Mexico**
November 10-13. Guanajuato, Mexico. Sponsor: Medical Society of the United States and Mexico. Contact: Executive Secretary, 3161 North Pantano Road, Tucson, Arizona 85715.

**Urologic-Radiologic Diagnosis II**
November 19-21. Scottsdale, Arizona. Sponsor: Maricopa County General Hospital. Contact: Alex Newman, M.D., Leonard Tamsky, M.D. Maricopa County General Hospital, 2601 West Roosevelt, Phoenix, Arizona 85008. Approved for hour per hour Category 1 credit.

## 1983

**Fifth Annual International Cataract Surgery Symposium**
February 15-16, 1983. The Alamos Resort, Scottsdale, Arizona. Sponsor and Contact: The Eye Foundation, 525 N. 18th Street, Ste 504, Phoenix, Arizona 85006.

**9th Annual Frontiers in Ophthalmology**
February 17-19, 1983, Mountain Shadows Resort, Scottsdale, Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, 525 North 19th Street, Phoenix, Arizona 85006. Approved for hour per hour Category 1 credit.

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doctors Hospital, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

**Office Psychiatry for the Primary Provider**
2nd Monday of month, 4811 N. 7th Street, Phoenix, AZ. Sponsor: Arizona Health Plan. Contact: T.R. Bittker, M.D., Box 5000, Phoenix, AZ 85010. Approved for Category 1 credit.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Phoenix Psychiatric Council. Contact: James E. Campbell, M.D., 5051 N. 34th St., Phoenix, AZ 85018. Approved for 2 hours Category 1 credit.

**Monthly Meeting of Tucson Radiologists**
Last Tues. of month. Plaza International, Tucson, AZ. Sponsor: U of A Medical Center, Dept. of Radiology. Contact: Irwin M. Freundlich, M.D., U of A Health Sciences Center, Dept. of Radiology, Tucson, AZ 85724. Approved for 2 hours Category 1 credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix: 1st Tues.—Phoenix Indian Hospital, 2nd Tues.—Maricopa County Hospital, 3rd Tues.—Good Samaritan Hospital, 4th Tues.—St. Joseph's Hospital. Sponsor: Maricopa County Hospital (Phoenix Hospital's Affiliated Pediatric Program). Contact: J. Kipp Charlton, M.D., 2601 E. Roosevelt, Phoenix, AZ 85008. Approved for 1 hour per session Category 1 credit.

**Review of Forensic Pathology Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,000, Phoenix, AZ 85064. Contact: Ravi Koopot, M.D.

**Clinical Conference**
**Cardiovascular Medicine**
Third Tues., 5:15 p.m., second floor classroom

## ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 85008. Contact: Arnold L. Kendall, M.D.

**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. Rm., Contact: Dr. Conger & Staff

**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Services Bldg., Conf. Rm.

**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. Conf. Rm.

## BARROW NEUROLOGICA INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Jose Hospital and Medical Center, 350 W. Th Rd., Phoenix, AZ 85013. Sponsor: St Jose Hospital & Medical Center. Contact: Jo Green, M.D. Approved for 1 hour Categ credit.

**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Room.

**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and and fifth, Eighth Floor Conference Roo

**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neuro conference room.

**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second fourth weeks, in Neuropathology Rm.—a multidisciplinary review of admis by neurosurgeons, orthopedists, rehabilitation specialists.

**Neuropathology of Gross Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.

**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conference

**Neuropathology or Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology Neuropathology Conference F Neuroradiology in First Floor Confere Rm.

**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference

**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth F Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City 85372. Contact: Martha R. Newby, E Director of Education.

**Medical Department Continuing Me Education**
4th Wednesday, 12 Noon, C119. May, Sept. & Nov.

**Tumor Board**
Last Thursday of the month, 12 Noon, E Center Classroom I & II, May, July, Sep Nov.

**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classroo & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Spon Camelback Hospital. Contact: T. F. Reid, M.D.

**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Ariz Contact: L.A. Rosati, M.D. Approved Category 1 credit.

**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West

**cal Conference — Dept. of Medicine**
kly, Thurs., 12:30-1:30 p.m. Buffet Lunch, ıde Rm.

**GYN Medical Staff Conference**
kly, Monday, 12:30-1:30 p.m. Grande Rm.

**atric Case Conference**
Friday, 12:30 p.m., Grande 2

## DOCTORS HOSPITAL

East Thomas Road, Phoenix, Arizona 6 Contact: Medical Staff Secretary for tional information.

**icians Continuing Education Program**
'hursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

N. Wilmont Road, Tucson, AZ 85712. act: Eric G. Ramsay, M.D. Approved for gory 1 credit.

**ily Practice Department Meeting**
Monday, 12 Noon, (March, June, Sept. December) Contact: R. Grossman, M.D

**ical Department Meeting**
Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

N. Beaver Street, P.O. Box 1268, staff AZ 86002. Contact: B. C. chberg, M.D., CME Program Clinical erence. Approved for Category 1 credit.

**esting Case Conference**
'uesday, 12:30 p.m., Tollefson Rm.

**cal Conferences**
kly, Tuesdays, 12:30 p.m., Tollefson Rm.

**or Board Case Conference**
Tuesday, 12:30 p.m., Hospital Conf. Rm.

**ality & Morbidity Conference**
'hursday, 12:30 p.m., Hospital Conf. Rm.

## GOOD SAMARITAN HOSPITAL

East McDowell Rd., Phoenix, AZ act: W. J. Howard, M.D. Approved for gory 1 credit.

**omical Path. & Cytology**
kly, Mondays 4:00-5:00 p.m., S-4 Conf

**ecological Section Conference**
Monday, 12:30-1:30 p.m., West Rm

**day Noon Conference**
kly, Monday, 12:00-1:00 p.m. R-2 Conf.

**ality/Morbidity, Surgery Comm.**
Monday, 11:30-2:00 p.m., West Rm.

**etrical Section Conference**
Monday, 12:30-1:30 p.m., West Rm.

**ıonary Disease Grand Rounds**
kly, Monday, 12:00-1:00 p.m., D-5 North

**ily Practice Conference**
kly, Tuesday, 12:00-1:00 p.m., Fam. tice Conf. Rm.

**atric Grand Rounds**
Tuesday, 7:30-8:30 a.m., Contact: Paul eson, M.D.

**enix Plastic Surgery dency Conference**
kly, Tuesday, 5 p.m.-6 p.m., Education ding, Contact: Robert McGregor, M.D.

**& R Noon Inservice**
& 4th Tuesday, 12 Noon, R-2 Conference

**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., West Rm, Contact: John A. Bruner, M.D.

**Combined Cardiovascular & Family Practice Conf.**
Ist, 2nd, & 4th Wed., 12:00-1:00 p.m., D-5 North.

**Learning Disabilities**
Weekly, Wednesday, 10:30-12:30 p.m., R-2 Conf. Rm.

**OBGYN Dept. Review & Statistics**
Weekly, Wednesday, 12:30-3:00 p.m., OBGYN Conf. Rm.

**Gynecological Pathology**
Weekly, Thursday, 1:00-2:00 p.m., S-4 Conf. Rm.

**GI Radiology Conference**
1st Thursday, 12:00-1:00 p.m., F151, Radiology Conf. Rm.

**Phoenix Ultrasound Soc. Meeting.**
2nd Thursday, Medical Education Building, Contact: Dr. Ben Ora

**Neurology Grand Rounds**
Weekly, Thursday, 9:00-10:00 a.m., D-5 North.

**Surgical Grand Rounds**
Weekly, Thursday, 7:00-8:30 a.m., Education Building, Contact: Dr. Gilsdorf

**Tumor Treatment Planning Conf.**
2nd & 4th Thursdays, 12:00-1:00 p.m., F151 Radiology

**Joint Tumor GYN Conference**
2nd Friday, 12:30-1:30 p.m., West Rm.

**Medical Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., West Rm.

**Neuropathy Conference**
Last Friday, 1:15-2:15 p.m., S-4 Morgue.

**Psychiatry Grand Rounds**
Weekly, Friday, 11:00-12:00 noon, East Rm.

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.

**Medical Conference**
Weekly, Monday, 12:30 p.m., Contact: Chief Medical Resident.

**Surgical Connference**
Weekly, Monday, Contact: R. Fischer, M.D.

**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.m., Contact: J Wurzel, M.D.

**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chief Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.

**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.

**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.

**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz Room

**Obstetrical Problem Conference**
Weekly, Tuesday, 7:30 a.m., Yavapai Rm.

**Orthopedic Conference**
Weekly, Tuesday, 7:30 a.m., Santa Cruz Rm.

**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.

**Urology Discharge Planning Conference**
Weekly, Tuesday, 11:30 a.m., Station 42

**Hand Surgery Conference**
Weekly, Wednesday, 7:30 a.m., Santa Cruz Rm.

**Neurosurgery Discharge Planning**
Weekly, Wed., 1:30 p.m., Station 42.

**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.

**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental Health Annex, Rm. 1346.

**Surgery Conference**
Weekly, Wed., 7-8 a.m., Surgical Dept.

**Current Concepts In Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.

**Cardiology Conference**
Weekly, Thurs., 2 p.m., Santa Cruz Rm.

**OB/GYN Resident Conference**
Weekly, Thurs., 12 p.m., Yavapai Rm.

**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Rm.

**OB/GYN Surgical Pathology Conf.**
Weekly, Friday, 7:30 a.m., Yavapai Rm.

**Orthopedic X-Ray Conference**
Weekly, Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: E. John Wickman, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015. Contact: J. Burr Ross, M.D., Approved for Category 1 credit.

**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.

**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for category 1 credit.

**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.

**Clinical Staff Teaching Conference, Rm. A.**
Weekly, Wednesday, 7:30-8:30 a.m.

**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact: N. Wendell Tood, M.D.

**Family Practice/Emergency Room Teaching Conference**
Thursday, Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.

**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.

**Clinical Conferences**
Weekly Tuesday, 12:30 p.m., Kiva Conference Rm.

**Psychiatric Clinical Conference**
2nd Friday, 11:30 a.m., B-Wing Conf. Rm., Contact: Medical Staff Secretary

**Tumor Board Conference**
Weekly Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.

**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge

**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge

**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge

**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge

**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge

**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge

**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge

**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge

**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge

**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lounge

**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lounge

**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lounge

**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.

**Genetics Conference**
Weekly, Monday, 12:30 p.m., Pediatric Department.

**Pediatric Rounds**
Weekly, Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.

**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.

**ECG Conference**
Weekly, Tuesday, 12:30 p.m., Pediatric Department.

**Medical Grand Rounds**
Weekly, Wednesday, 8 a.m., 1st Floor Conf. Room.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 8 a.m., PIMC

**Visiting Professor Informal Presentation**
Weekly, Thursday, 9:30 a.m., 1st floor Conf. Rm.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 12:30 p.m., PIMC

**Nephrology Conference**
Weekly, Fridays, 12:30 p.m., Pediatric Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact: Wm. Moteforte.

**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact: Kim Sowards.

**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.

**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contact: S. Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ, Contact: Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly, Monday, 12:15 p.m., Auditorium

**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditorium

**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium

**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium

**Cardiovascular-Thoracic Record Review**
3rd Wednesday, 12:15 p.m., Auditorium

**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips Auditorium

**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium

**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium

**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium

**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium

## ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85
Contact: see below.

**Monthly Specialty Conference — Dept. of Surgery**
1st Monday, 7:30 a.m., Century Rm
Contact: Med. Staff Office.

**Grand Rounds: Medical Surgical, Fa Practice, Pathology, Radiology**
Weekly, Thursday

**Emergency Medicine Lectures**
Weekly, Thursday, 8 a.m., Century Rm.

**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm

**Cardiology Conference**
Weekly. Friday, 8:00-9:00 a.m., Century
Contact: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716
Contact: Eric G. Ramsay, M.D. Approve
Category 1 credit.

**Cardiology Conference**
Weekly, Monday, except last, 12 N
Contact: M. Maximov, M.D.

**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. M
M.D.

**Endocrinology Conference**
Last Monday, 12 p.m., Contact M. Pa
M.D.

**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Loh
M.D.

**Surgical Dept. Conference**
2nd Monday, 12 Noon: Contact: C.
Crowe, Jr., M.D.

**Chest Conference**
1st Tuesday, 12 noon, Contact: Wi
Nevin, M.D.

**Hematology Conference**
4th Tuesday, 12 Noon, Contact: M. B
M.D.

**Infectious Disease Conference**
3rd Tuesday, 12 noon, Contact: B. Fried
M.D.

**Nephrology Conference**
2nd Tuesday, 12 noon, Contact: Dr. Sel

**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay
M.D.

**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact
Lightner.

**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert F
M.D.

**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact:
Fuchs.

**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April,
& Oct. Contact: C. Mangelsdorf, M.D.

**Medical Conference**
Weekly, Wednesday, 8:00 a.m., Contac

ns, M.D.
**rology-Neurosurgery Conference**
kly, Wednesday, 12 noon, Contact: H. W.
chsbaum, M.D.
**natology Conference**
Thursday, 12 noon, Contact: R. Friedman,

**roradiology Conference**
kly, Thursday, 5:00 p.m., Contact: N.
ar, M.D.
**or Conference**
kly, Thursday, 12 noon, Contact: Cancer
mittee.
**nonary/Infectious Disease**
**Conference**
Thursday, 7:30 a.m., Contact: William
n, M.D.
**Conference**
kly, Friday, 12 noon, Contact: George
hard, M.D.
**hospital Nuclear Medicine Conference**
kly, Friday, 7:15 a.m., Contact: S.V. Hilts,

**GYN Conference**
riday, 7:30 a.m., Contact: Charles Parker,

**GYN Pathology Conference**
Friday, 7:30 a.m., Contact: R. Spark, M.D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

treet and Indian School Road, Phoenix,
5012. Contact: Alfred Heilbrunn, M.D.
oved for Category 1 credit.
**cal/Surgical GI Conference**
3rd Monday, 3 p.m., Rm. 3134, Contact:
ozarek, Ext 413. Dr. Mertz, Ext 493.
**opedic Surgery Conference**
Monday, 7:30 a.m., Rm 3134, Contact: Dr.
o.
**ery - Pathology Conference**
londay, 4:00 p.m., Rm 3134, Contact: Dr.
z & Dr. Lanard.
**ular Conference**
Monday, 3 p.m., Rm. 3134, Contact: Dr.
ora
**rand Rounds**
kly, Tuesday, 1 p.m., Contact: Drs.
wski, Kozarek, after GI Grand Rounds,
T-5.
**adiology Clinical**
**elation Conference**
nd 3rd Tuesday, 12:00 noon, Rm. T-5,
act: Dr. Sanowski.
**ology Conference**
and 4th Tuesday, 12:00 noon, Rm. T-5,
act: Dr. Sanowski.
**estaff Pulmonary Disease Teaching**

ly, Wed., 12:30-1:30 p.m., Rm. 4115,
act: Dr. Rohwedder, Ext. 388.
**er Symposium**
nd 3rd Thursdays, 3 p.m., Rm. 3134,
act: Dr. Byrne
**iology Conference**
Thursday, 1 p.m., Room T-5, Contact: Dr.
ozedeh
**cal Surgical Chest Conference**
3rd Thursday, 12:30 p.m., Contact: Dr.
vedder.
**cal Service Grand Rounds**
nd, 3rd. & 5th Thursdays, 11 a.m., Rm.
Contact: Dr. Zeller
**cal Mortality Conference**
riday, 11 a.m., Room T-5, Contact Dr.
r

## PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.

**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

## TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.

**Medical Surgical Chest Conference**
Weekly, Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly, Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Conf.**
Weekly, Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly, Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.

**Radiology Conference**
1st Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Tuesday, 6:30 p.m.

**Pathology Conference**
4th Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Wednesday, 7:00 a.m.

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**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.

**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly, Thursday, 4-5 p.m., Room 5403.

**Anesthesiology Case Discussion**
Weekly, Wed., 7:00 a.m., AHSC, Dining Rm. C&D.

**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.

**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center.

**Cardiac Catheterization Conference**
Weekly, Friday, 4:00 p.m., Contact: Dr. Temkin.

**Cardiology Research Conference**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn.

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505. Contact: Jerry Goldstone, M.D., Dept. of Surgery.

**Dermatology Conference**
4th Monday, 5:15 p.m., AHSC, Contact: Dr. R. Friedman.

**Dermatology Rounds**
Weekly, Wed., 11:30 a.m., Contact: Dr. Lynch.

**Endocrinology Seminar**
Weekly, Thursday, 12-1 p.m., Contact: Dr. Johnson.

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contact: Dr. Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus.

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter.

**Head & Neck Tumor Management Conference**
Weekly, Wed., 4:00 p.m., Contact: Dr. Manning.

**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.

**Medical Grand Rounds**
Weekly, Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.

**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contacts: Drs. Hughes & Alcorn.

**Neuromuscular Disease Conference**
Weekly, Friday, 11:30 a.m., Contact: Dr. Stern.

**Neuropathology Case Review**
Weekly, Friday, 8:30 a.m., UAHSC, Dr. P. Johnson.

**Neuroradiology Conference**
Weekly, Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson.

**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.

**Neurosciences Seminar**
Weekly, Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford.

**Nuclear Medicine**
Weekly, Thursday, 7:30 a.m., AHSC Radiology Conference Rm.

**OB/GYN Lectures**
Weekly, Friday, 1 p.m., AHSC, Contat: Dr. C.D.Christian.

**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler.

**Ophthalmology Retina Fluoro. Conference**
Weekly, Thursday, 5 p.m., AHSC, Contact: Dr. H. Cross.

**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.

**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.
**Pathology Conference**
Weekly, Monday, 12 noon, AHSC, Contact: Dr. C.D. Christian.
**Pathology Seminar**
Weekly, Friday, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley.
**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.
**Pediatric Grand Rounds**
2nd, 4th & 5th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.
**Pediatric Problem Patient Conference**
Weekly, Wed., 8:00 a.m., Contact Dr. Lillian Valdes-Cruz
**Pediatric Research Forum**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Otakar Koldovsky
**Pediatric Specialty Conference**
Weekly, Friday, 8:00 a.m., Contact: Dr. Marilyn Heines & Jane Ruggill.
**Psychiatric Grand Rounds**
Weekly, Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium.
**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital.
**Pulmonary Rounds**
Weekly, Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.
**Chest Radiology**
Weekly, Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.
**Neuroradiology Teaching Conference**
Weekly, Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson
**Radiation Oncology Planning Conference**
Weekly, Friday, 8:30-10:00 a.m., AHSC, Rm. 0655
**Radiology Interesting Case Conference**
Weekly, Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich.
**Radiology-Rheumatology Conference**
Weekly, Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.
**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact: Dr. Nagle.
**Residents Noon Conference**
Weekly ,Tuesday & Thursday, 12:00 noon, AHSC, Contact: Dr. A. Greensher.
**Resident's Conference**
Weekly, Wed., 5-6 p.m., Diag. Radiology Conf. Rm.
**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.
**Surgical Morbidity & Mortality Conference**
Weekly, Wed., 8:00 a.m., Contact: Dr. Wangensteen.
**Trauma Conference**
Thursday, 4:00-5:00 p.m.. AHSC, Rm. 5505
**Toxicology Conference**
Weekly, Tuesday, 8:00 a.m., Contact: Dr. Keith Likes.
**Tucson Ultrasonography Group**
Weekly, Wed., 4:30 p.m., AHSC, Contact: Dr. I. Freundlich.
**General Urology Conference**
Weekly, Tue. & Thurs., 12:00 noon, AHSC & VA Hospital Contact: Dr. G.W. Drach.
**Vascular Surgery Conference**
Weekly, Tuesday, 4-6 p.m., AHSC, Contact: Dr. J. Goldstone.

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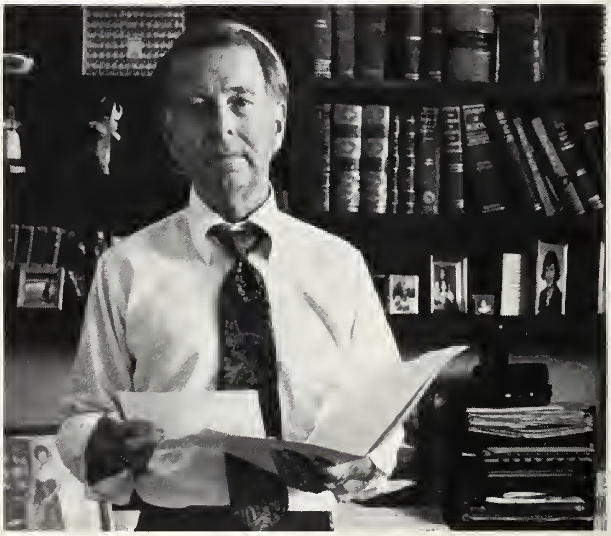

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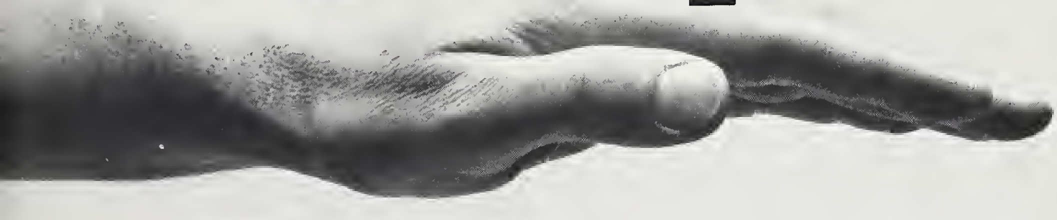

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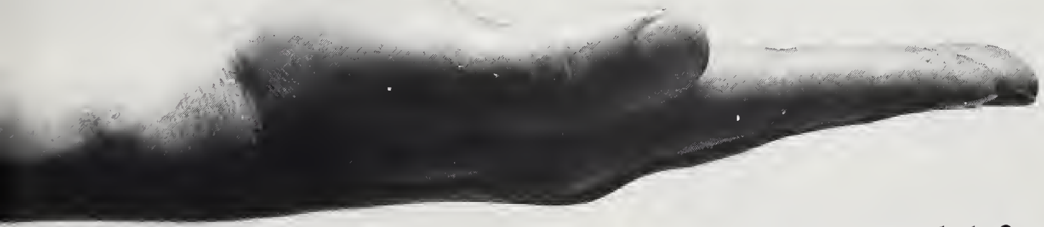

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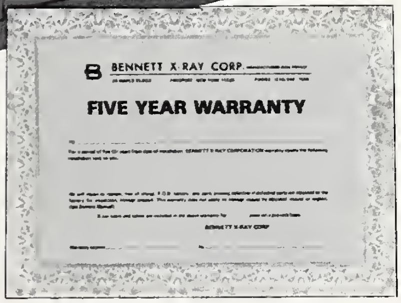

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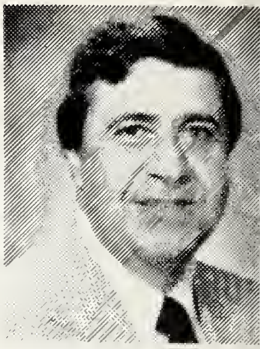

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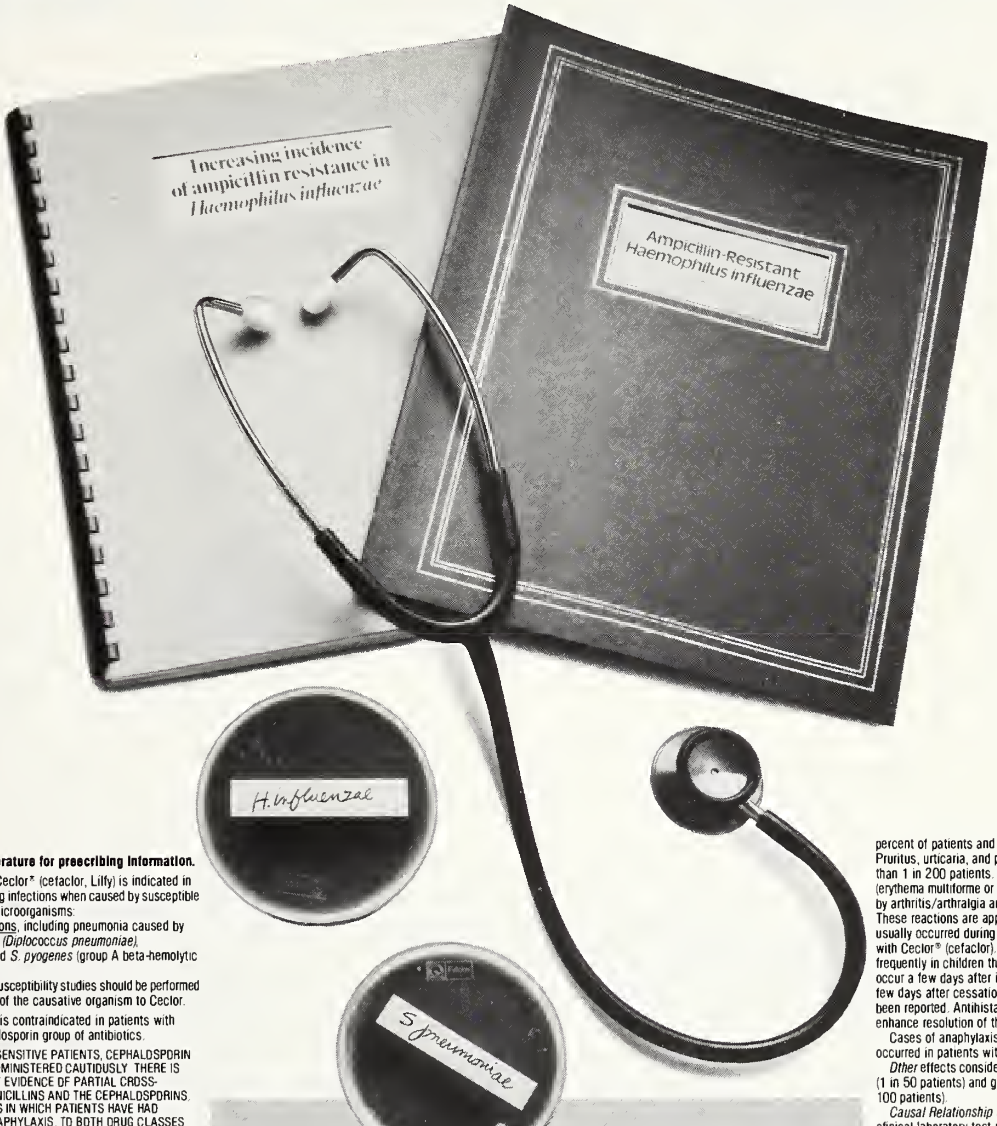
# An added complication...
# n the treatment of bacterial bronchitis*



**Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]**

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

## Ceclor®
## cefaclor

Pulvules®, 250 and 500 mg

**of Summary.**
**sult the package literature for prescribing information.**

**ications and Usage:** Ceclor® (cefaclor, Lilly) is indicated in treatment of the following infections when caused by susceptible ins of the designated microorganisms:

ower respiratory infections, including pneumonia caused by *ptococcus pneumoniae (Diplococcus pneumoniae), mophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic ptococci)

ppropriate culture and susceptibility studies should be performed etermine susceptibility of the causative organism to Ceclor.

**traindication:** Ceclor is contraindicated in patients with wn allergy to the cephalosporin group of antibiotics.

**rnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN IBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS NICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD CTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES ntibiotics, including Ceclor, should be administered cautiously ny patient who has demonstrated some form of allergy, icularly to drugs.

**cautions:** If an allergic reaction to cefaclor occurs, the drug uld be discontinued, and, if necessary, the patient should be ted with appropriate agents, e.g., pressor amines, antihistamines, orticosteroids.

rolonged use of cefaclor may result in the overgrowth of susceptible organisms. Careful observation of the patient is ential. If superinfection occurs during therapy, appropriate sures should be taken.

ositive direct Coombs tests have been reported during tment with the cephalosporin antibiotics. In hematologic dies or in transfusion cross-matching procedures when globulin tests are performed on the minor side or in Coomb ing of newborns whose mothers have received cephalosporin biotics before parturition, it should be recognized that a itive Coombs test may be due to the drug.

eclor should be administered with caution in the presence of kedly impaired renal function. Under such a condition, careful ical observation and laboratory studies should be made ause safe dosage may be lower than that usually recommended.

s a result of administration of Ceclor, a false-positive reaction glucose in the urine may occur. This has been observed with edict's and Fehling's solutions and also with Clinitest® lets but not with Tes-Tape® (Glucose Enzymatic Test Strip, P, Lilly).

*sage in Pregnancy*—Although no teratogenic or antifertility ects were seen in reproduction studies in mice and rats receiving to 12 times the maximum human dose or in ferrets given three es the maximum human dose, the safety of this drug for use in nan pregnancy has not been established. The benefits of the g in pregnant women should be weighed against a possible to the fetus.

*sage in Infancy*—Safety of this product for use in infants s than one month of age has not been established.

**verse Reactions:** Adverse effects considered related to aclor therapy are uncommon and are listed below.

*astrointestinal* symptoms occur in about 2.5 percent of ients and include diarrhea (1 in 70) and nausea and vomiting n 90).

s with other broad-spectrum antibiotics, colitis, including rare tances of pseudomembranous colitis, has been reported in njunction with therapy with Ceclor.

*ypersensitivity* reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

*Note:* Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

**References**

1. Antimicrob. Agents Chemother., *8*:91, 1975.
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7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

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*Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.*

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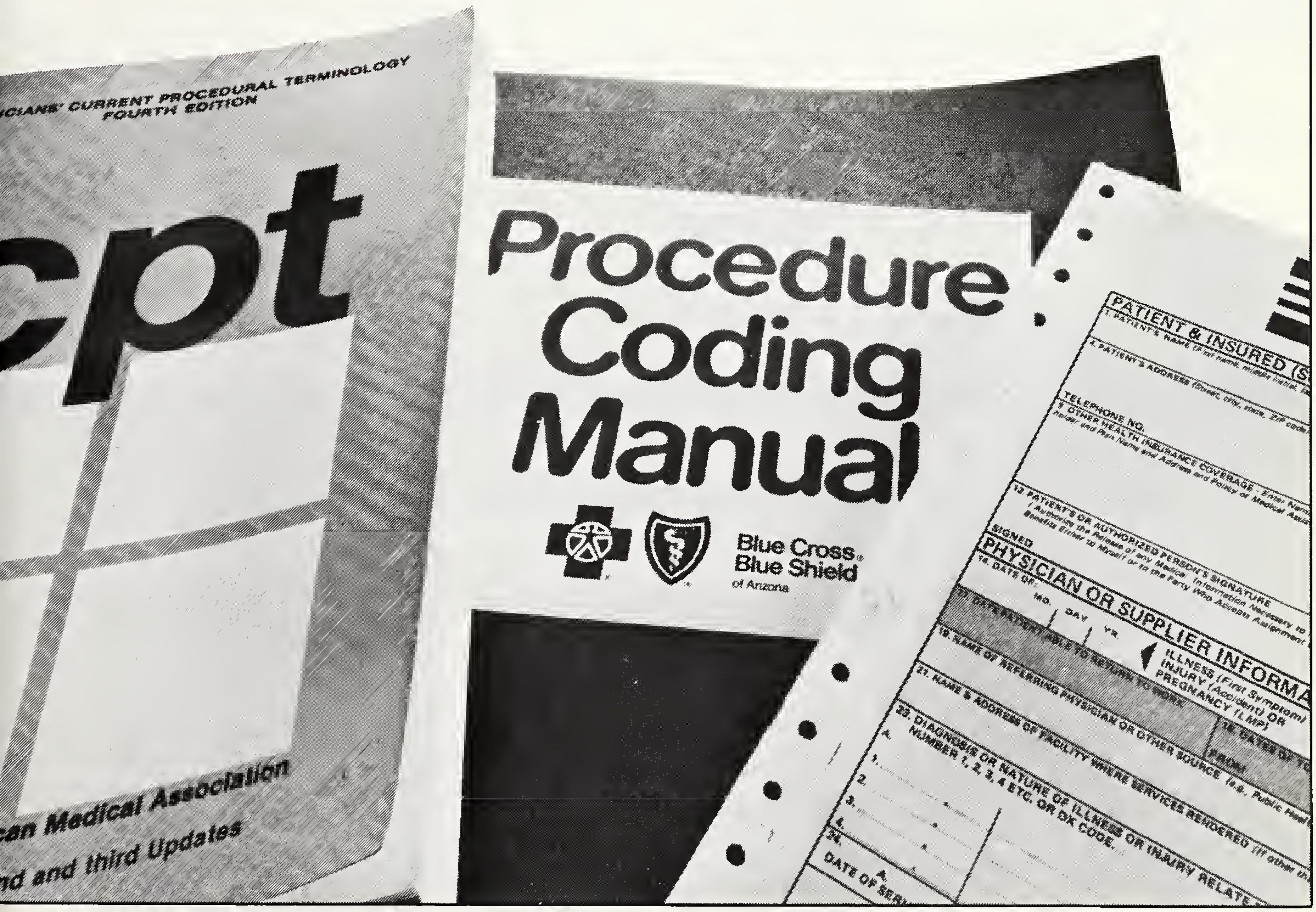

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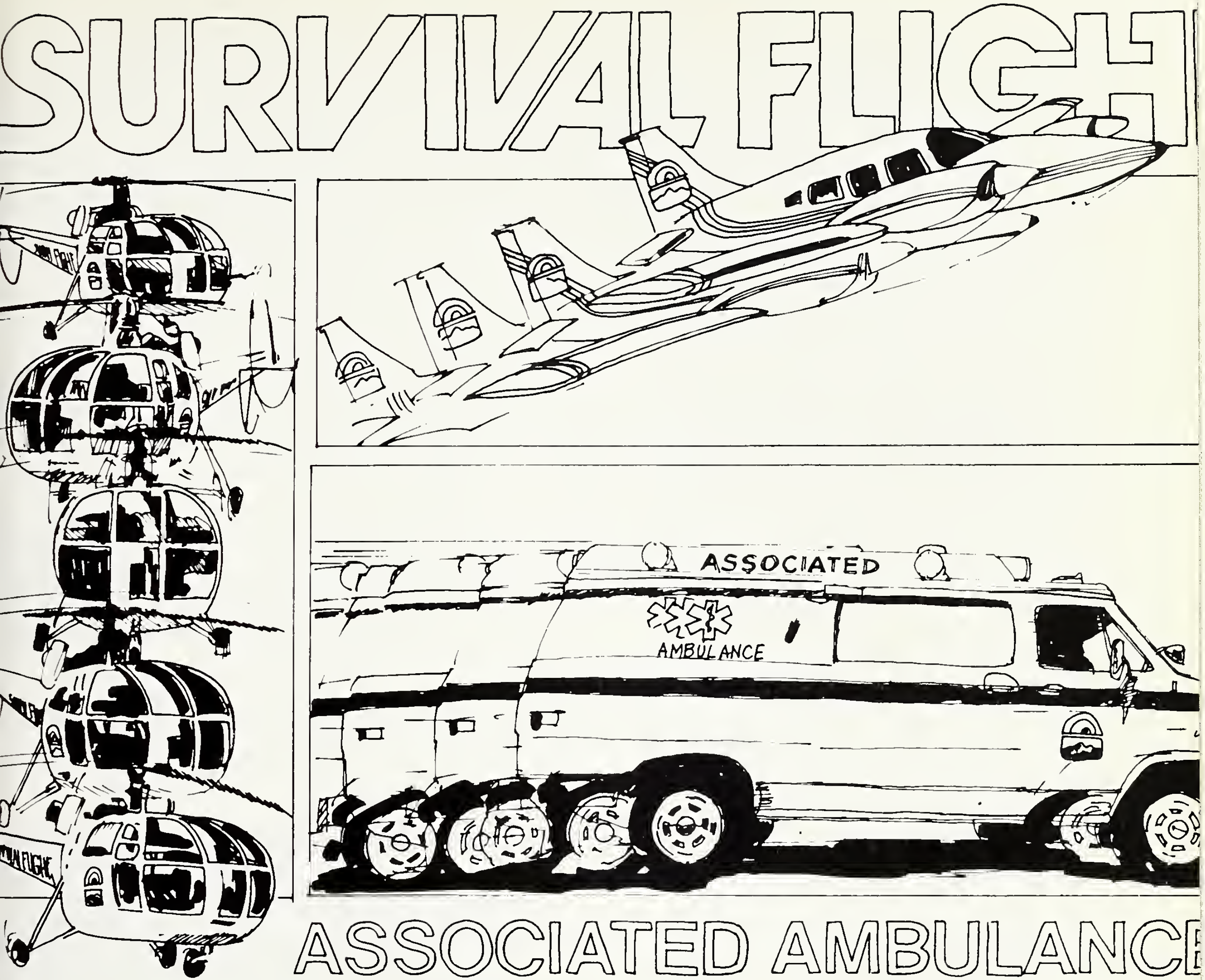

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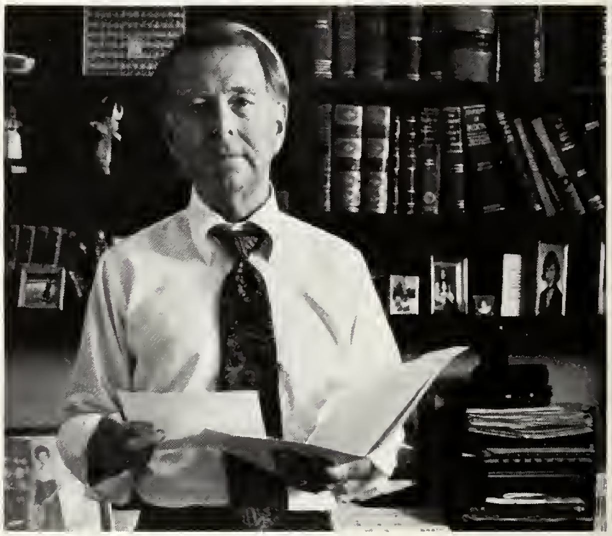

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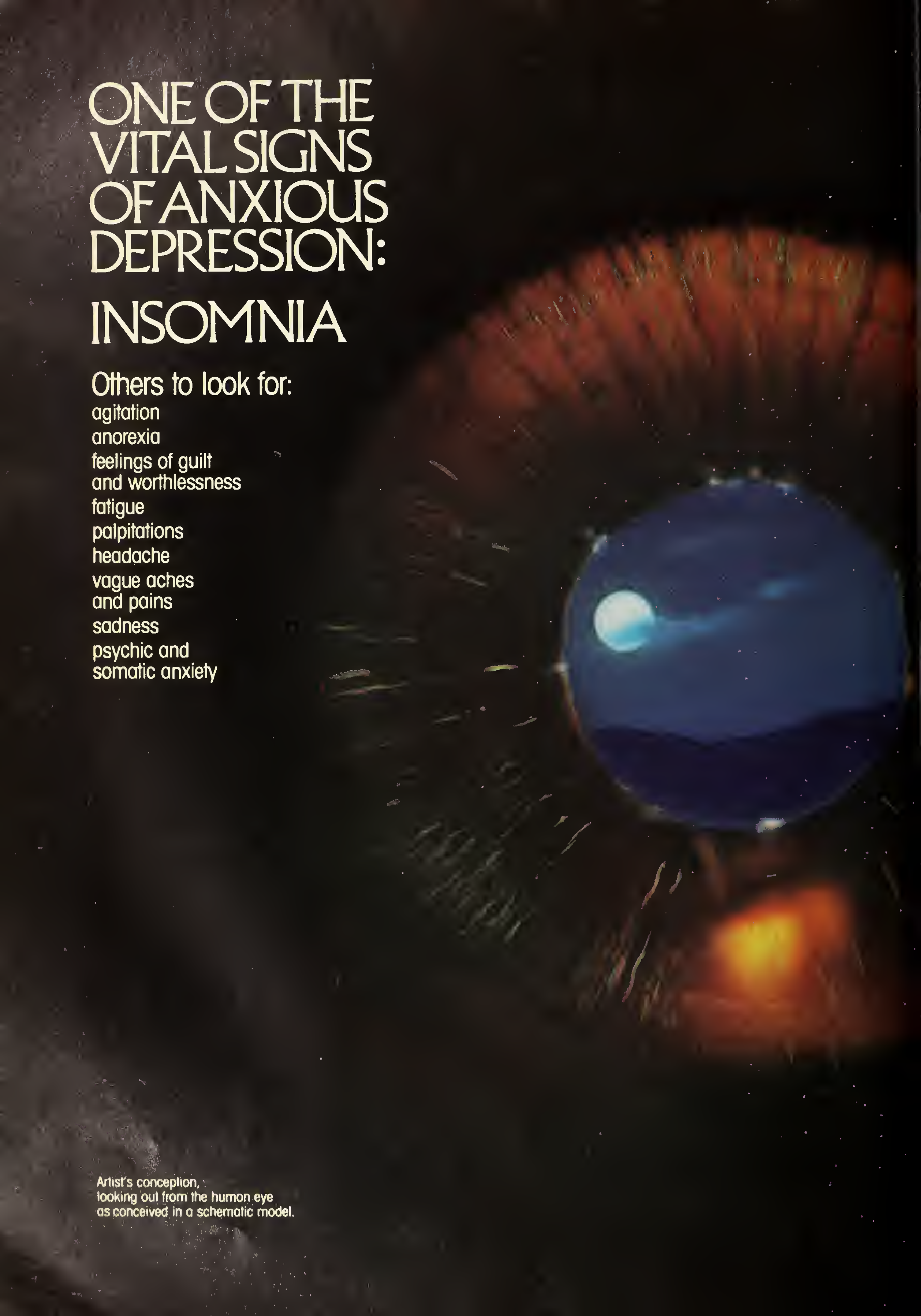

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**Please see summary of complete product information on following page.**

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**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved Contraindicated during acute recovery phase following myocardial infarction
**Warnings:** Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses Myocardial infarction and stroke reported with use of this class of drugs ) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e g , operating machinery, driving)

*Usage in Pregnancy:* **Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives Concomitant use with other psychotropic drugs has not been evaluated: sedative effects may be additive Discontinue several days before surgery Limit concomitant administration of ECT to essential treatment See Warnings for precautions about pregnancy Limbitrol should not be taken during the nursing period Not recommended in children under 12 In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects
**Adverse Reactions:** Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:
*Cardiovascular* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.
*Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido
*Neurologic* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns
*Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract
*Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus
*Hematologic.* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia
*Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue
*Endocrine.* Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels
*Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling
**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose Treatment is symptomatic and supportive I.V administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning See complete product information for manifestation and treatment.
**Dosage:** Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single *h.s* dose may suffice for some patients Lower dosages are recommended for the elderly
Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required
Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.
**How Supplied:** White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50

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*Cardiology*

# emporary Pacemakers in cute Myocardial Infarction

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The indications for a temporary pacemaker in the urse of acute myocardial infarction (AMI) have been e subject of some controversy. Indeed, prophylactic sertion of a pacemaker in anticipation of advanced egrees of heart block has been examined in numerous udies. Certain trends have been noted and reasonable uidelines suggested. Interestingly, no study has yet onclusively shown that pacing in acute myocardial farction has significantly affected hospital mortality.[1-4] order to ascertain the influence of pacing in this tting, prospective randomization of subjects with adyarrhythmias and certain types of advanced heart ock would be required. The risk inherent in perrmance of such a study is obvious. The purpose of this aper is to review indications for the use of temporary acemakers in patients with AMI. Specifically, isturbances of sinoatrial impulse formation and of onduction through the A-V node and bundle branches ill be considered.

**Sinus Node Dysfunction**

Sinus node dysfunction occurs in approximately five percent of AMI and usually in association with inferior wall myocardial infarction. Dysfunction is manifested by sinus bradycardia, sinus exit block and sinus arrest. The abnormality is usually transient and a temporary pacemaker is indicated in symptomatic patients refractory to treatment with atropine. In asymptomatic patients, most authorities suggest pacing for a persistent heart rate less than 40/minute or frequent pauses greater than two seconds in duration. In addition, bradycardia-dependent ventricular arrhythmias may be abolished by the use of a pacemaker.

**Atrioventricular Block**

A pacemaker is not indicated for isolated first degree A-V block. Prolongation of the P-R interval combined with other types of block may represent a potentially dangerous setting which will be discussed in detail below.

Second degree A-V block occurs more commonly with inferior wall infarction rather than with anteroseptal myocardial infarction. Ninety percent of all second degree block is Type I, or intranodal. When second degree block occurs in association with anteroseptal myocardial infarction there is a greater likelihood that the block is infranodal, that is, in the His bundle or bundle branches. With Type I second degree A-V (Wenckebach) block most authors suggest pacing only if the patient has a heart rate less than 40/minute or is hemodynamically compromised. Gann et al.,[5] and Mullins et al.,[6] suggest pacing for Type I block in the presence of an anteroseptal myocardial infarction even if the patient is asymptomatic. For Type II block, Gann et al.,[5] and Chung[7] support pacing for symptoms, bradycardia or if the infarct is anteroseptal. Many clinicians insert a pacemaker for any episode of Type II block since with rare exception there is no gradual prolongation of the P-R interval and an abrupt change to

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om: The Institute for Cardiovascular Diseases, Good Samaritan edical Center, 1111 East McDowell Road, Phoenix, Arizona 85006. eprint requests to Alberto Benchimol, M.D., Good Samaritan edical Center, P. O. Box 2989, Phoenix, Arizona 85062. Supported in rt by the E. Nichols Memorial Fund, and The Institute for rdiovascular Diseases, Inc.

complete A-V block with an unstable idioventricular rhythm may ensue.

Complete heart block occurs in about five percent of patients with AMI. In the presence of inferior wall myocardial infarction a pacemaker is not necessary unless the patient is symptomatic, hemodynamically compromised or has a heart rate less than 40/minute. Lie et al.,[8] add another indication in this setting, namely an unstable escape mechanism, such as a wide right bundle branch block (RBBB) QRS configuration. When an anteroseptal myocardial infarction is operative, temporary pacing is universally espoused for complete heart block.

**Fascicular and Bundle Branch Block**

Left anterior hemiblock (LAH) complicates two percent to eight percent of AMI. Three percent of patients with this intraventricular conduction defect develop complete heart block.[6] Most authorities do not advocate routine temporary pacing for LAH alone. Escher,[9] however, advises pacing for LAH complicating anteroseptal myocardial infarction. Isolated left posterior hemiblock (LPH) is rare, probably occurring in less than one percent of AMI. The scant data available concerning this variety of fascicular block does not permit the establishment of firm guidelines for temporary pacing.

Left bundle branch block (LBBB) occurring in AMI progresses to complete heart block in approximately twenty percent of cases.[6] Pacemaker insertion is indicated when LBBB intervenes in AMI of any site. Escher[9] furthermore advises standby pacing even for incomplete LBBB. When first degree A-V block occurs with LBBB, is advanced heart block more common? Waugh et al.,[10] studied 538 patients with AMI. The risk of Type II second degree A-V block with either bifascicular block (RBBB + LAH, RBBB + LPH) or LBBB and first degree A-V block was 35%, compared with 20% for LBBB alone. Hindman et al.,[11] in a study of 432 patients with AMI and bundle branch block found that patients with first degree A-V block had no increased risk for developing advanced A-V block.

Lie et al.,[12] examined 50 patients with anteroseptal myocardial infarction and new bundle branch block. His bundle studies were performed in all patients. Subjects with a prolonged His bundle-ventricular conduction interval (H-V) had a higher mortality than those with a normal H-V interval. A prolonged H-V interval predicted those patients who developed a third degree A-V block. The P-R interval had no correlation with H-V interval and did not predict complications.

Right bundle branch block occurs in 2.5% of AMI. It may be associated with LAH or LPH, the former being five times more likely. RBBB, whenever alone or with a hemiblock, progresses to complete heart block in about 40% of cases.[6] Pacing is indicated for RBBB regardless of the infarct site. If RBBB is old, pacing is indicated if new LAH or LPH develops.

Hindman's study examined mortality and pacemaker use.[11] One hundred and two patients had prophyla
pacemaker insertion. Thirty-two subjects died
congestive heart failure. Two died of complete he
block after the pacing wires had been remov
Seventy-eight patients had therapeutic pacema
placement with nine dying during the procedu
Twenty-five subjects expired with congestive he
failure and four died after pacemaker removal, w
three of these deaths due to complete heart block. T
study suggests a beneficial response to pacing
preventing death due to a remediable abnormality
conduction. It is clear that many patients with A
develop conduction disturbances with concomita
severe pump failure. In this setting the extent
myocardial necrosis rather than conduction block is t
main determinant of patient survival. Unfortunately, t
not infrequent combination and its dismal outcome
been misconstrued to indicate the failure of pacing
alter mortality. Pacing, per se, does not limit infarct si
unless there is reduced coronary perfusion due
bradycardia or bradycardia dependent ventricu
dysrrhythmias. It is precisely the group with
coexisting severe pump failure which benefits m
from pacemaker insertion.

**Summary**

| Condition | Indications for Pacemaker |
|---|---|
| Sinus node dysfunction | Symptoms, heart rate < 40<br>or pauses > 2 seconds |
| 1° A-V Block | None |
| 2° A V Block: | |
| Type I | Symptoms, heart rate < 40 |
| Type II | Most authors recommend pacing especially in antero septal myocardial infarctio |
| 3° A-V Block | Inferior myocardial infarction—Symptoms, heart rate < 40, or unstable escape mechanism. Anteroseptal myocardial infarcion—All |
| LAH (Isolated) | Most authorities suggest n pacer |
| LPH | Unknown |
| LBBB (New) | All |
| LBBB (Old) | None |
| RBBB (New) | All |
| RBBB (Old) | New LAH or LPH |

**A reduction of heart rate* < 60/min in association wi
hypotension, disturbed sensorium, continued chest pain
reduced urinary output (not explained by an obvious fact
other than the bradycardia) represents an indication f
pacing.

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*Seminars in Dermatology*

# Carpal Tunnel Syndrome as a Precursor of Polymyalgia Rheumatica

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Editors:

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**Abstract**

Three well-documented cases of carpal tunnel syndrome (CTS) were associated with polymyalgia rheumatica (PR). Two cases of CTS occurred two weeks prior to the onset of the PR. A third case occurred two weeks before symptoms of PR were exacerbated. This close temporal relationship may indicate that CTS in an elderly patient is a precursor of PR.

Although carpal tunnel syndrome (CTS) is frequently associated with many rheumatic diseases, its association with polymyalgia rheumatica (PR) has infrequently been reported. We are aware of only one well-documented case of CTS associated with giant cell arteritis, reported by Kovarsky and associates,[1] and of six other PR cases cited by other authors.[2,3] Healey and Wilske[4] also mentioned that two of their patients had CTS. Ahmed and Braun[5] recently described five PR patients with CTS (in whom, however, no nerve conduction studies were performed). The latest reported cases were from Richards,[6] who had 12 patients with PR and CTS, three of whom had the CTS confirmed by nerve conduction studies. We report in detail three additional cases of CTS associated with PR.

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## Report of Cases

Case 1: A 67-year-old white woman complained of the gradual onset of bilateral wrist swelling and pain with numbness and tingling sensations in the fingers, increasing at night and awakening the patient. Physical examination of the wrists revealed a tender and thickened synovium. Tinel and Phalen signs were negative. Nerve conduction studies showed that the distal motor latency of the left median nerve was 6.5 msec (normal, ≤ 4.4 msec) and of the right median nerve was 3.1 msec. We injected the left wrist with 40 mg methylprednisolone acetate, and her symptoms improved. When she returned two weeks later, she complained of morning stiffness for an hour with minor pain in her proximal muscles and increased difficulty rising from bed or a chair due to joint stiffness and pain. She denied fever, headache, weight loss, jaw claudication, or visual problems. At physical examination, minimal proximal muscle tenderness and moderate pain with passive range of motion was more noticeable in the lower than in the upper extremities, and there was no muscle weakness or synovitis. Laboratory test results included: erythrocyte sedimentation rate (ESR), Westergren method, 85 mm/h (15 mm/h); a negative latex fixation test. We treated her with 10 mg prednisone daily. Over the next 24 to 48 hours, the patient reported dramatic changes. She had no further morning stiffness or muscle pain. One week later, the ESR was 54 mm/h. The patient's therapy was maintained at 7.5 mg prednisone daily, then tapered off in one year. The ESR was 12 mm/h when she was last seen in March 1979.

Case 2: A 71-year-old white woman complained of a two-month history of moderate pain in her right shoulder and upper arm and marked morning stiffness and daytime gelling. She had no muscle weakness or joint symptoms. At physical examination, she had mild pain at the shoulder girdles with passive range of motion. Muscle weakness or synovitis was not noted. Laboratory testing showed: ESR, Wintrobe method, 36 mm/h (20 mm/h); negative latex fixation. A temporal artery biopsy was normal. Polymyalgia rheumatica was diagnosed, and the patient was treated with intramuscular methylprednisolone acetate and adrenocorticotropic hormone (ACTH). Her symptoms were markedly improved. Seven months after the PR symptoms were quiescent with the patient taking no medication, she complained of the gradual onset of pain in both hands associated with aching and paresthesias in her fingers. She had negative Tinel and Phalen signs. The nerve conduction studies showed the distal motor latency of the right median nerve to be 6.55 msec and of the left, 7.35 msec (normal, ≤ 4.4 msec). The ESR was normal. Two weeks later, the symptoms of aching and morning stiffness in both shoulder girdles and thighs had returned. The ESR, Wintrobe method, was 46 mm/h; results of latex fixation were negative. When she was given 40 mg intramuscular methylprednisolone acetate and 60 units ACTH, her symptoms improved within 24 hours. We operated on the right carpal tunn the excised histopathologic material showed chro synovitis. The left carpal tunnel was injected w methylprednisolone. She had no complaints and w not taking medication when she was last contacted telephone in March 1979.

Case 3: A 67-year-old white woman complained progressive stiffness and an aching sensation witho muscle tenderness of the shoulder, neck, and girdles. She had no headache, visual complaints, or j claudication. In addition, approximately two wee before her symptoms developed, she complained some pain and paresthesias of the second and thi digits of her right hand when she awakened. Results joint examination did not show any synovitis, mus weakness, or tenderness. There were positive Tinel a Phalen signs at the right wrist. Laboratory data include ESR, Wintrobe method, 51 mm/h; negative latex fixati results. Nerve conduction studies revealed that the dis motor latency of the right median nerve was 5.0 ms The left median nerve conduction was normal. V administered 60 U intramuscular ACTH and 40 r methylprednisolone. Her symptoms improved. Tv weeks later, the ESR was 32 mm/hr. All the sympto were stable when she was seen at follow-up in Ap 1979.

## Discussion

Kovarsky and associates[1] showed that CTS develop in their patient seven months before the onset of PR; two cases reported by Ahmed and Braun,[5] the onset CTS occurred prior to PR (one week before in o patient and three months before in another patien The cases described by Miller and Stevens,[2] and Heal and Wilske[4] define a clear temporal relationship. reviewing our three cases, it is important to note that two of the patients (Cases 1 and 2), CTS developed abo two weeks before the onset of the PR. In Case 3, C occurred at a time when the symptoms of PR we quiescent; two weeks after the CTS became apparer the PR flared again. Richards,[6] in his recent report, h five patients in whom CTS developed two to ten wee before the onset of PR. These cases raise the questio whether CTS is associated causally with PR or the occurrence in the same patient is unrelated. In the pa CTS has rarely been reported to be associated with P although the joint scans done by O'Duffy and coworke showed the wrists to be abnormal in 44% of PR patient Despite the small number of cases reported in th literature, four well-described cases (including the thr in our series), the two cases reported by Ahmed a Braun,[5] and the five cases by Richards[6] demonstrate th CTS, either unilateral or bilateral, occurred prior to t onset of PR. Thus, when CTS develops in elderly patien without any known cause, clinicians should consid that this syndrome might be the precursor of PR.

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*Seminars in*
*Gastroenterology*
*and Liver Disease*

# irrhosis Associated with lpha$_1$ Antitrypsin eficiency

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## itroduction

A genetically determined deficiency in alpha$_1$ antiypsin (AAT) was first discovered twenty years ago. At ie same time, the striking association between early nset emphysema and the deficiency was observed; five ears later the relationship to childhood cirrhosis was oted.

## ase Report

The patient was a 62-year-old white male with ulmonary emphysema associated with alpha$_1$ antiypsin deficiency. The diagnosis was made 15 years arlier when his AAT level was less than ten percent of ormal. The patient was chronically dyspneic and ulmonary function testing demonstrated severe irflow limitation with hyperinflation and air trapping lespite a history of less than 15-pack years tobacco use.

He presented with an abdominal mass and had hepatosplenomegaly with evidence of portal hypertension. The alkaline phosphatase was 282 U/L (115), the bilirubin 1.4 mg/dl (1.2), the SGPT 73 U/L (45), and the SGOT 72 U/L (41). The albumin and the prothrombin time were normal. The hepatitis B screen was negative and there was no history of alcohol abuse.

A laparoscopically-directed liver biopsy was obtained. Microscopically, cirrhosis with broad fibrotic bands was found. Intrahepatic intracytoplasmic globules were present. These globules were PAS positive and resistant to diastase digestion. (Figure)

The alpha$_1$ antitrypsin level was less than 150 mg/dl (normal 210 to 500) and the serum trypsin inhibitory capacity 0.2 (normal greater than 0.7 mg trypsin inhibited/ml serum). Protease-inhibitor (Pi) typing was performed, and the patient was phenotype ZZ.

Both the hepatic cirrhosis and emphysema were

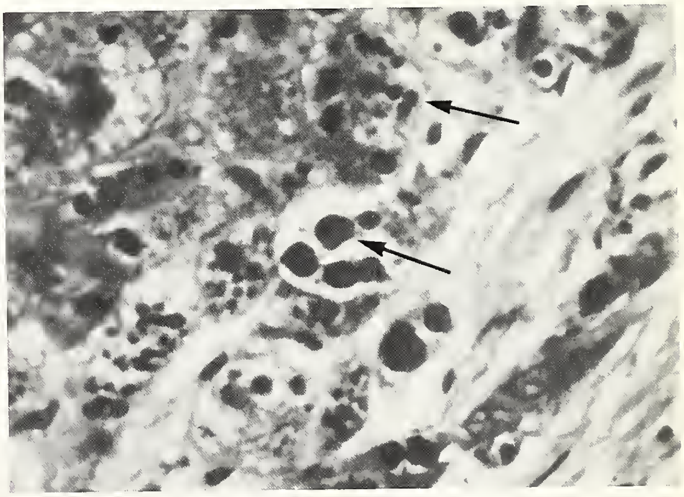

**Figure**
**High power view of liver biopsy. Arrows indicate PAS positive globules in degenerating hepatocytes.**

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rom: Veterans Administration Medical Center/Good Samaritan lospital Pulmonary Fellowship Program and Gastroenterology ection, Veterans Administration Medical Center, Phoenix, Arizona.

thought to be secondary to alpha$_1$ antitrypsin deficiency.

Several months later the patient was readmitted with abdominal pain. He required surgery for diverticulitis and a sigmoid resection under epidural anesthesia was done. He died in the late postoperative period with progressive hepatic insufficiency.

### Discussion

Alpha$_1$ antitrypsin is an alpha$_1$ globulin, accounting for approximately 90% of that globulin measured on routine serum protein electrophoresis. It is a glycoprotein with a 54,000 molecular weight, consisting of a single polypeptide chain with four carbohydrate side chains of two different types. It is found in tears, lymph, saliva, duodenal fluid, cervical mucus, aminotic fluid, and serum where it has a half-life of about one week.

Alpha$_1$ antitrypsin acts by inhibiting various proteolytic enzymes, and for that reason the name alpha$_1$ proteases inhibitor may be a better label. Enzymes inhibited include trypsin, chymotrypsin, and various polymorphonuclear leukocyte proteases such as elastase and collagenase.

The deficiency is detected in two ways. The first is by determining the trypsin inhibitory capacity (T.I.C.) of serum. Ninety-one percent of this is attributable to alpha$_1$ antitrypsin. A spectrophotometer is used to measure the ability of trypsin to degrade synthetic esters before and after the addition of a patient's serum containing AAT. The degree of inhibition is then compared to a standard.

The second method is to measure the alpha$_1$ globulin concentration directly by either routine protein electrophoresis or by radial immunodiffusion wherein the concentration of antitrypsin (the antigen) is determined from the area of circular immune precipitate that forms. Levels above 40% of the mean for either test rule out serious deficiency. Serum with lower levels should be further examined with protease inhibitor typing described below.

Protease inhibitor (Pi) typing has greatly improved our understanding of the antitrypsin system. This is done by electrophoresis on starch gel at pH 4.9. Here the alpha globulins appear as a series of characteristic bands migrating at different speeds. The variants are designated by letters—M, Z, S. F., etc. Letters early in the alphabet indicates fast mobility toward the anode. The whole system is titled "Pi" for protease inhibitor. The electrophoretic pattern is the only means of distinguishing some globulin variants because they are functionally and immunologically indistinguishable. However, some variants are associated with different levels of TIC and AAT concentration.

Peptide mapping has demonstrated that several of these electrophoretic variations are secondary to amino acid substitutions. For example, in the "Z" variant, a single glutamic acid of the "M" variant has been replaced by lysine.

The trait is thought to be inherited in an autosomal dominant fashion wherein each subject carries two
alleles, each controlling the production of one typ
AAT molecule independent of that controlled by
corresponding allele on the matched chromosome.
normal protease inhibitor (Pi) genotype is written Pi
and is found in 87% of the population. PiMZ is
example of a heterozygotic genotype. At least 26 s
variants have been reported, many in but one individ
or family. Heterozygotes have lower than nor
concentration of AAT but most have no clini
disability.

The most serious deficiency is ZZ. It is more freque
in Northern Europe than in the United Stat
nevertheless, population studies in Arizona indicate t
one person in every 368 has either ZZ or SZ. An AAT le
of 15% is found in ZZ patients, and of 40% in SZ patien

### Pulmonary Disease

The most common disorder caused by AAT deficien
is severe emphysema. It is distinguished from the us
centrilobular emphysema common in cigarette smoke
by its occurrence in non-smokers, earlier age of ons
panlobular distribution and predominant involveme
of the lower lobes. (Centrilobular or smokers' emph
sema tends to involve the upper lobes). The chest x-r
film of a patient with AAT emphysema is qui
characteristic: There is decrease in peripher
vasculature most prominent in the lower lobes. In t
original group of patients described, the onset
symptoms occurred under 40 years of age in 60% a
under 50 years of age in 90%. Minimal tobac
consumption in association with the deficiency caus
symptoms very early in life. All severely deficie
patients are at risk for the development of lung disea
but it is unclear whether the moderately deficie
heterozygote is also at risk. Heterozygotes may devel
subtle abnormalities in the mechanical properties
their lungs, but these abnormalities are not manifest
by clinical disease, except perhaps in the case
smokers.[8,9]

Why a deficiency of the AAT enzyme should produ
pulmonary emphysema remains speculative. AAT m
protect pulmonary structures from proteolysis cause
by proteases released in the alveolar spaces
leukocytes and macrophages.

There is no specific therapy for AAT emphysema an
these patients are treated as any other patient wit
emphysema. However, when the deficiency
recognized it is doubly important to get the patient
stop smoking and genetic counseling should be offere
The deficiency follows simple mendelian inheritanc
When both parents have intermediate AA
concentration—MZ and MS, for example—the childre
will have low, intermediate and normal values in th
ratio of 1:2:1.[7]

### Liver Disease

More recently liver disease has been found i
association with AAT deficiency. The onset of live
disease may be childhood or adulthood. Ten cases
childhood cirrhosis were recognized first from a routin

vey of serum electrophoretic patterns in which all the dren with cirrhosis of undetermined etiology had reased AAT. In contrast, children and adults with hosis of known etiologies had normal AAT.[1]

hortly thereafter, the characteristic histologic finding delineated: Livers of the severely deficient ariably demonstrate globules of an amorphous erial in hepatocytes.[6] The material stains with P.A.S. n but is resistant to diastase digestion. (Glycogen also ns with P.A.S. but is digested). Fluoroscent tagged serum to AAT reacts with this P.A.S. positive erial, thereby identifying it as immunologically ilar to AAT. This material is a precursor of AAT that never been excreted. These histologic findings are sistent, sensitive and specific for patients with an T deficiency.

vegar prospectively screened 200,000 infants in eden for AAT associated liver disease.[2] The results st be interpreted recognizing that the Swedish ulation is more inbred than that of the United States. ong the PiZ homozygotic infants, 7% developed ere obstructive jaundice, 3% subclinical jaundice, 6% variable symptoms of liver disease. An additional of the total had biochemical evidence of hepatic nage. No PiSZ infants had liver disease and chemical abnormalities were rare suggesting that els of AAT greater than 40% were protective. Severe lestasis had a striking tendency to be familial and two ds of the newborns afflicted were male, perhaps ause there are additional genetic and hormonal ors. Several authors have concluded that after biliary sia, AAT deficiency is the most common defect ciated with infantile cirrhosis.

ome early deaths occur among these children but in st the jaundice subsides and the patient thrives until y adolescence. At the time, clinical manifestations of hosis begin to occur. Most children then die in late lescence of the complications of cirrhosis. The erity of adolescent disease is not correlated with the ree of infant jaundice, but most who had definite ormalities in infancy do develop disease. It is a zle why only a minority of PiZZ infants develop liver ase.

ne same histologic changes are found in the livers of h homozygous and heterozygous PiZ adults. All tain the characteristic P.A.S. globules. Berg and sson[3] reported the first adult liver disease series. rteen patients with homozygous AAT deficiency e evaluated. All had P.A.S. positive globules, five had hosis and three fibrosis. Three of those with fibrosis cirrhosis had hepatomas. Twelve patients with liver ase had emphysema. In some the lung disease was clinical.

nese findings were expanded by Eriksson[4] in 1974. ong two hundred adult patients with PiZZ AAT ciency, nine had cirrhosis. Most had the acute onset ortal hypertension. The prognosis was gloomy, with dly progressive cirrhosis producing death from hepatic coma or bleeding. Most patients were over fifty, and associated emphysema was common. There was no history of childhood jaundice and other causes of liver disease were excluded. Six of the nine patients with cirrhosis had primary liver cell carcinoma at autopsy. Eriksson therefore concluded that cirrhosis in AAT deficiency is a precancerous condition and estimated a 10% risk of cirrhosis with PiZZ phenotypes.

Other authors have not reported this high prevalence of carcinoma or chronic liver disease. Geographic variations suggest there are other culturally-determined or genetic factors.

Despite the presence of P.A.S. positive globules in their liver, heterozygous subjects were not thought to be at increased risk until a 1981 study identified an increased prevalence of PiMZ phenotypes in patients with cryptogenic cirrhosis and chronic active hepatitis.[5]

There are two major proposed mechanisms for the pathogenesis of liver disease in AAT deficient patients: The "toxic factors theory" and the "storage disease theory." The former proposes that the deficiency allows the accumulation of uninhibited proteolytic enzymes that cause tissue damage. The latter proposes that the accumulated clumps of AAT render the hepatocytes more vulnerable to damage. More study is needed to determine why some patients never develop liver disease and whether the liver disease that occurs in adults has a different etiology from that in children.

As with pulmonary emphysema, no specific therapy is available for the liver disease, nor are prophylactic measures to forestall its development known. Treatment is that of the end result, cirrhosis, and its associated complications such as portal hypertension.

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*Medical Genetics*

# Recombinant DNA
# I. The Technology and Terminology

Frederick Hecht, M.D.

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## Abstract

A revolutionary development in medicine has been the arrival of genetic engineering in the form of recombinant DNA technology. The applications of this new technology include gene mapping, prenatal genetic diagnosis, gene carrier detection, early preclinical diagnosis and the potential for treating "incurable" genetic diseases. The new technology is outlined here in simple terms.

The most heralded advance today in medicine is recombinant DNA. As in many new areas, a new language comes with a new territory. This is true in recombinant DNA: it utilizes a new language.

I am not an expert in recombinant DNA, but in beginning to learn this new area, I have outlined its basic boundaries to some extent and present them to you, together with part of the necessary new language of recombinant DNA technology.

## An Analogy

The hereditary material in humans can be likened t piece of white string. Take a pair of scissors and cut t white string into pieces. Then take a circle of blue stri Cut the circle of blue string at one spot and tie in a pi of white string, so now you have a circle of string tha blue with one stretch that is white. Repeat this w various pieces of white string. Now take the blue a white circles of string to a factory and the factory make many copies of the original blue and white circ of string. Then select the circles of string (containin particular segment of white string) that you wish. T anology—involving, string, scissors and a factor provides the general idea behind the new recombin DNA technology.

## Initial Terminology

**DNA:** The hereditary (genetic) material in human

**Genes:** Segments of DNA.

**Recombinant DNA:** The incorporation of hum DNA, for example, into the DNA of another organis

**Vector:** The organism into which the human DN for example, is incorporated (recombined).

**Host:** The factory (usually E. coli) into which t vector is inserted.

**Clones:** Multiple identical copies, for example, DNA.

## Recombinant DNA

The technology of recombinant DNA involves, as t term implies, *DNA*. DNA is the hereditary material humans. The technology is as follows:

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irst, *fragments of DNA* are generated. These ments contain *genes* of special interest.

econd, the fragments of DNA are *recombined*, that is orporated, into a *vector*. A vector in this case may be, example, a bacterial plasmid (that also confers biotic resistance upon bacteria).

hird, the vector is then incorporated into a *host*. The t most often utilized is Escherichia coli (E. coli).

ourth, the host is then grown in culture to produce nes with many copies of the incorporated fragments uman DNA.

fth and finally, clones are selected that contain a ired DNA fragment.

**re Terminology**

**ases:** The complementary bases which make up A are: adenine (A) and thymine (T); cytosine (C) and nine (G).

**estriction enzymes:** These are endonuclease ymes which cleave DNA at restricted sites; sites with ertain sequence of bases.

**taggered ends:** Uneven ends of DNA such that the complementary strands of fragmented DNA are of qual length.

**lunt ends:** Even ends of DNA with both nplementary strands of fragmented DNA being of the e length exactly.

**eplicon:** A vector (see above under Initial abulary).

**lasmid:** An organelle with a single circle of DNA; fers bacterial resistance upon bacteria it infects; es as a vector.

**hage:** A virus that infects bacteria; serves as a vector.

**re Technology**

he opening step into the new DNA technology is to ment DNA. This is performed by *restriction ymes*.

he restriction enzymes in current use, number more n two hundred different enzymes. Each is highly cific and cleaves DNA at restricted sites.

hese sites are restricted by the specific sequence of es. For example, the restriction enzyme EcoRI cleaves A between the bases G and A when the sequence of es reads GAATTC. Since DNA is double stranded in nans, this produces *staggered ends:*

G|A A T T C

C T T A A|G

hese staggered ends of DNA are sticky and will ombine with complementary base sequences in the A of the vector. The human DNA and the vector DNA treated with the same restriction enzyme to produce gered ends which then recombine to form a circle of tor DNA containing a fragment of human DNA.

ertain restriction enzymes do not produce staggered ls, but instead yield *blunt ends*. For example, the riction enzymes SmaI cleaves DNA between C and G en the sequence of bases reads CCCGGG. This duces blunt ends:

C C C|G G G

G G G|C C C

These blunt ends can then be treated in one of several ways to make them staggered (i.e., sticky) ends suitable for recombination between human fragment DNA and circular vector DNA.

The vectors are carriers of human DNA. The vectors commonly used are *plasmids* and *phage*. Another vector involves a plasmid within a phage. Vectors replicate themselves independently of their host and so are also termed *replicons*.

**Final Terminology**

**Kilobase:** A thousand (1,000) base pairs; abbreviated *Kb*.

**cDNA:** Complementary copy of DNA.

**mRNA:** Messenger RNA transcribed from the DNA.

**Reverse transcriptase:** Enzyme reversing the process of transcription, i.e., from cDNA to mRNA.

**Library:** A set of cloned DNA fragments.

**Southern blot:** A special method invented by Dr. E. M. Southern.

**Final Technology**

The recombination of human DNA fragments into vector DNA then permits the human DNA fragments to be cloned by growing the vector in a suitable host such as E. coli.

The length of the human DNA fragments in these clones varies from very short to very long. A 1 *Kilobase* (1*Kb*) fragment can be cloned. Or, for example, a much longer fragment measuring 50 Kb (50,000 bases long).

The fragment of DNA cloned may be naturally occurring. Or it may be, for example, *cDNA* previously produced from *mRNA* by the use of a *reverse transcriptase* enzyme. Thus one can make a *library* of cloned DNA fragments.

To localize a particular DNA fragment of interest, a key technique utilizes a *Southern blot*. This is a separation method using electrophoresis and a series of subsequent steps to identify specific fragments with individual probes.

**Afterward and Applications**

I recognize that all of this may sound like Latin to you, but here I have introduced you to the technology and terminology of recombinant DNA. My reason for so doing is that recombinant DNA will change the face of medicine in this decade.

The applications of recombinant DNA technology include mapping, prenatal genetic diagnosis, gene carrier detection, early preclinical diagnosis and the curing of currently incurable diseases. These applications will be the subject of the second article in this series.

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Oncology

# Adjuvant Chemotherapy of Colorectal Carcinoma

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Colorectal carcinoma accounts for the vast majority of new cases and deaths secondary to gastrointestinal malignancies. In 1981 120,000 new cases were anticipated in the United States with almost 55,000 deaths.[1] In contrast to lung cancer for which a cause is known and significant efforts can and should be directed toward prevention, the etiology of colorectal carcinoma remains elusive and health efforts must currently be directed towards therapy.

Two important biologic characteristics of colorectal carcinoma are its tendency to invade the intestinal wall without lateral spread and to involve lymph nodes i orderly fashion. Both are independent progn factors and are the basis for the Duke's Classifica System and its many modifications. If the malignancy not involved the lymph nodes and invades only mucosa of the colon, five year survivals are high, ran from 75% to 100%. If the lesion has not involved ly nodes but has invaded into or through the muscular the bowel wall, five year survival drops to 40% to 64 there are lymph nodes containing carcinoma, five survivals fall to 15% to 44% with the lowest survival b in patients with serosal penetration.[2]

The proper design of adjuvant clinical trials inclu the treatment of patients at high risk of develo recurrent disease with drugs effective in the therap metastatic disease. For colorectal carcinoma, availability of effective anti-cancer drugs presen problem. In metastatic colorectal carcinoma, sev agents have undergone extensive testing as si treatment modalities. Therapy with 5-FU has, cumulative reports, demonstrated a 21% response in trials involving over 2,000 patients. Other drugs proven but not superior activity when compared to 5 are the nitrosoureas and mitomycin. Combinat chemotherapy has also been used in a large numbe patients with advanced disease, but no combinatio drugs appears to be clearly superior to 5-FU used alo Despite this less than satisfactory chemosensitivity, conduct of adjuvant trials is at least partially explaine the fact that less than 50% of all patients are cured surgery and this poses an enormous health probl Consequently, colorectal carcinoma has been a tar for adjuvant chemotherapy trials for more the ten ye

At least 12 large, well-designed, adjuvant trials h been carried out in patients with resected colore carcinoma. In the late 1960's and early 1970's the VAS (Veterans Administration Surgical Adjuvant Group) the University Surgeons Group each conducte controlled study of surgery plus or minus thio-TEPA. surgery alone control groups in both studies had eq or superior survivals when compared with the surg plus thio-TEPA arms.[3,4] Four trials have utilized 5- alone as adjuvant therapy. Only one of the four demonstrated benefits for 5-FU treated patients an that study comparison was made to historical control The surgery plus chemotherapy arms of controlled tr utilizing FUDR or intraluminal 5-FU or BCG ± 5-FU h also not had superior survivals.[9-12]

Beginning in 1975, the GI Tumor Study Group randomized 621 patients with Stages B2, C1 and resected colon carcinoma to surgery alone ver surgery plus adjuvant therapy with Methyl CCNU plu FU or BCG or combined chemoimmunotherapy. A median follow-up of three years there has been benefit for any of the groups receiving adjuv therapy.[13] A similar study conducted by the Southw Oncology Group (SWOG) appears to have obtain equally discouraging results.[14]

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reviewing adjuvant therapy in colon cancer, there be some merit to evaluating rectal carcinoma rately where an additional adjuvant modality can be ied—radiotherapy. However, thus far, this remains a ly untested concept. The GITSG has reported on results in rectal carcinoma from a controlled study surgery alone versus adjuvant therapy with otherapy, chemotherapy with 5-FU plus MeCCNU, adiotherapy plus chemotherapy with 5-FU alone. study appears to show some benefit for the bined adjuvant chemotherapy-radiotherapy arm, he trial is flawed by a high number of ineligible and patients in this arm.[15]

summary, to date, the adjuvant therapy of rectal carcinoma with chemotherapy has been ppointing. Future advancements in this area must t trials of the use of one or more of the following: acious drugs, better methods of individually cting drugs, improved methods of delivering drugs, ell-designed multi-modality therapies.

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**Psychiatric Disorders**

# Reasoning
# Part II

William B. McGrath, M.D.

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The learned professions have their ground and planting in language. Hence perhaps their weed-grown failures. For language and all of its crops are still downtrodden by the tyranny of usage or custom, or to use our term, emergence. Intimidated by ecclesiastical and other self-anointed authorities, we expect to be burned at the stake when we proclaim: Tradition, per se, is worthless!

The curse of custom and emergence is most evident at the intersections of religion and psychiatry and the law.

A well-dressed juror is overheard: "The murderer must have been insane because a normal person wouldn't have done it." The imperatives, must and because, are infantile, of course. And the either-or fallacy (either insane or normal) preempts all other

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diagnoses and precludes any consideration of degrees of culpability.

But most stupid and inexcusable of all is the fact that every legal test of criminal responsibility defines insanity by what it *isn't*. A negative definition (the inability to know the difference between right and wrong, etc.) is not a definition at all. (One cannot prove that a man is in New York by showing that he isn't in Los Angeles. A catalogue advertisement reads: “These sweaters are not made in the Far East, a feature that assures perfect workmanship and perfect fit.”)

The absurdity of negative definition is extended into the court's instruction to the jury: not to find guilty if there is reasonable doubt. How much more intelligent would be the positive instruction: find guilty if the evidence is reasonably convincing. (Convince and convict are from the same Latin root, a tautology.)

The law is not even embarrassed by its obsequious dependency on precedent. The word, precedent, deserves a closer look. Precedent, from precede, to go before—is this not kin to that recurring fallacy, post hoc, ergo propter hoc? No wonder the entangled undergrowth of the law with its meaningless definitions, its demands for yes or no answers to loaded questions, its archaic confusions of language and basic grammer.

While we are on this subject we'll bring up a gross example of emergence. We may have become a bit more tender hearted, but our reasoning has not yet advanced beyond Lex Talionis: an eye for an eye, a tooth for a tooth; let the punishment fit the crime, etc. We still put people in penitentiaries (housing for penitents) and we debate about crime and punishment, cruel and unusual punishment, capitol punishment.

No! This notion of punishment is nonsense. It is burdened with such irrational and conflicting emotions that intelligence can hardly be expected to function.

Whenever an individual has demonstrated that he cannot be trusted with the person or property of others, then society owes it to itself to get rid of him. Since there are no more frontiers or unclaimed regions, geographic exile is not feasible, and so criminals have to be walled in, like cysts in the body of society. And the individual who persists in inflicting terror or torture on his fellows, even in prison, will have to be executed, exiled to another world.

Until we find an effective vaccine or safe treatment of rabies, the mad dog has to be destroyed. Society is not wreaking vengeance on the culprit. Whether the animal is at fault or culpable is irrelevant. Punishment has nothing to do with it!

One of these days we had better make up our minds: The responsibility of society, through the law, begins and ends with protecting itself. We'd be wise to start practicing what we preach about not trying to legislate morality. We'd be wise to quit making divine judgments about punishment, based on our profound ignorance of human responsibility.

Some religious folk, even including educated
preachers, take a fierce uncompromising pride i
fact that their reasoning, too, has progressed not at
several thousand years. Overlooking the logic o
grammatical form, adjective (modifies a noun), the
ask for a Christian psychiatrist. They thus bet
warped view of both Christianity and psychiatry. W
it not be hard to identify a Presbyterian gall bladde
Catholic hernia? It is not disrespectful to point ou
“Christian Science” is a contradiction in terms,
“Church of Religious Science.” Science deals only
the worldly or mundane.

One of the most ruinous flaws in language is its fa
to differentiate physical matters from those tha
meta-physical. Even philosophy, another spinster i
household of language and emergence, fail
recognize or correct this flaw.

Take the muddled ambiguities of the word, b
Precisely defined, it means conviction of the trut
statement or the reality of a phenomenon, when b
on examination of evidence. Evidence (videre, to s
that which can be observed and known throug
senses, rather than by thought or intuition.

There is no legitimate use for the word, believe, i
non-sensory (sic!) worlds of religion and metaphysi
these worlds, by definition, there is no evidence t
examined. Yet wars have been fought over “reli
beliefs” and people have been imprisoned and tort
because of slogans and absurd demands for “belie
democracy or Marxism or papal infallibility or ba
by immersion. Setting aside the Scriptures as sacros
we find millions of people paying unquestio
homage to faulty translations of ridiculous statem
consecrated by age.

It is nonsense to ask whether we “believe”
rainbow or a symphony or Freud or Buddhism. Ther
reverent wisdom in *appreciating* rather than tryi
believe in any or all of the sundry religious den
inations. One does not believe in a theory suc
evolution; any theory is only to be used
appreciated.

Physics seeks numbered degrees of probability
engages mental mechanisms of belief. The realiti
science can be observed and counted or measured
concerns of metaphysics cannot be weighed or n
bered. The statue of David is not true or false, goo
bad, right or wrong. Any such subject as love or cou
or morality calls for mental treatment quite outsid
scope of scientific method.

Beauty is not a fact and is not in the object and n
the eye of the beholder. It is a transaction! Cause,
does not reside in an object but is in the no-man's
between related objects. (More about this below.

Secondly, things that cannot be measured sh
never be put in competition or compared. The w
rhetoric, for example, in such usage as “rheto
question,” has come to suggest more style
substance. Such a statement illustrates another
recognized corruption of our reasoning. Style obvi

ot be weighed or measured. It cannot be more or mportant than substance. It is like arguing whether side of a coin is worth more than the other.

etaphysical unities cannot be measured, and so they ot be divided. Whenever we try to separate style substance, structure and function, cause and effect, and mind, we inevitably somersault into shness.

erunds are an example and a common source of usion. Bastard words like sight, behavior, thought, action, digestion—such should be converted to the ng" form to indicate that they are abstractions, half ns and half verbs, with one foot on the ground of ics and the other in the air of metaphysics. This rfection of language is further illustrated by foolish s like alcoholism or patriotism: We cannot tell her they are functioning as judgments or nouns or notions or willingnesses or actual behaviors.

eaky, too, is that little verb, "is." It is often mistaken ean equivalency or identify. In the proposition, is sodium chloride," the "is" does mean "equals" t balances or completes the equation. But when we 'She is pretty" or "He is a Democrat" or "Smith is a nal," the "is" relates not to the subject but to only of its various uniforms or stereotypes or attributes or ities. Failure to make this distinction forecloses all r considerations, a polite way of indicating narrow-ledness. Any statement such as "He is diabetic" or is a surgeon" should alert us to ask whether "is" t correctly be replaced by "has" or "does."

witting "all-ness" in the use of the verb "is" titutes an adjacent quicksand of reasoning. We tioned that cause and effect do not reside in things vents but in the vacuum of their reciprocal onships. The point is hard to grasp: One thing does ause another. Even in 1982 we are asked: Is cooking aluminum utensils the cause of cancer? Is the ayal of violence on television the cause of juvenile quency? The sorrowing father of the man who shot resident and his companions is quoted: "I am the e of my son's tragedy." (Whose tragedy?)

iently gathering dust in their museums are the ographers and other experts on language. They wait to see whether this or that neologism or gram-cal error has had sufficiently vulgar usage to merit sion in their dictionaries. They wait centuries for ission to encase a dried-up word or phrase as lete.

ore actively destructive are most teachers of English. want to be popular at the childish levels of their ents and they want to demonstrate how nocratic" and liberated they are. So they ratify etives and obscenities which simply betray lack of ement and leaden dullness of imagination. With emic superciliousness they resist any notion that ect English might be preferable to the inane garbage verhear in a barracks or a low class bar.

is is not just elitism. We demand clear and correct instructions in everything from traffic control to the building of bridges. One had rather not have a surgeon who operates with an unscrubbed thumbnail or a Stone Age chisel. The operations of the mind are not less critical.

In the history of reasoning there have been a few unsung heroes who were not subservient to tradition and who called attention to the wasting effect of emergence. Alfred Korzybski ("Science and Sanity") comes to mind, with his disciples in general semantics. Maybe in a couple hundred years the law and philosophy and psychiatry will begin to familiarize themselves with their constructive suggestions.

A more timely candle of hope has appeared. The programming of computers may finally pull into focus the need for rigidly precise wording which (alone) represents clear thinking.

Once upon a time a talented and ambitious person could enter one of the learned professions as a stairway to the peerage. Terms like estate, as in the fourth estate of journalism, commonly called for the adjective, honorable. Such ideas now seem archaic. And one says "honorable" with tongue in cheek.

The learned professions have an opportunity to reclaim some of that honor, that ancient respect. Unlike physics and the other sciences, they work only in language. Language in turn ought not have to depend (depend means hang down) on usage or await emergence. When the value and absolute need of good English are realized, then our reasoning in medicine and law and religion and philosophy may approach the beautiful precision and progress which we find in science.

# Case of the Month No. 58

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Theron W. Ovitt, M.D.

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Janice R. Smith, M.D.

**Case History**

A 69-year-old white male presented with six months of vague upper abdominal pain and an 18 pound weight loss. He had experienced nausea and noted dark urine and clay colored stools for the preceeding three weeks.

Physical examination revealed a jaundiced elderly man with an enlarged liver. The laboratory reported a total bilirubin of 15.4, direct bilirubin of 8.1, and alkaline phosphatase of 420 (N1 = 30-100), and an SGOT of 126 (N1 = 4-20). The patient was admitted and a radiologic study performed.

What kind of study is this?
What do the radiographs show?
What is the differential diagnosis?
What therapy could be offered?

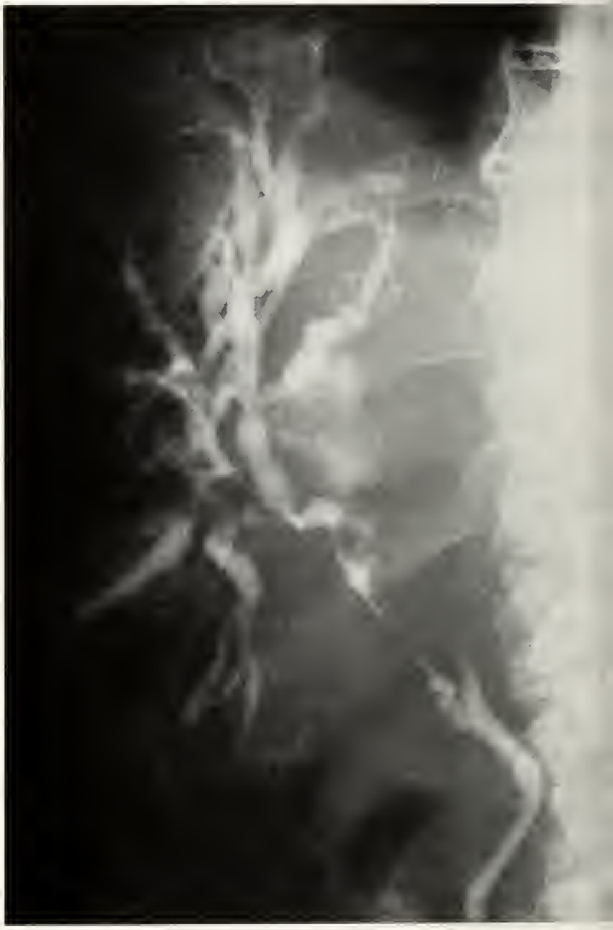

Figure 1

Continued on Page

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# Gas Chromatography Mass Spectrometry and Medicine

Much of the health of the human organism is determined by a complex system of biochemical reactions. These biochemical reactions or processes involve a large number of specific compounds. Quantitative analysis of these compounds in body fluids thus gives insight into the health of an individual patient.

The ability to analyze blood and urine for various compounds has necessitated a continual evolution of analytical techniques and instrumentation capable of detecting trace amounts of critically important biological or toxicological compounds. Some of these compounds have proven to be very important in the control of heart rate, blood pressure and even specific aspects of personality and behavior, at the part per trillion level. Other groups of compounds such as pollutants and toxins may be monitored to be certain that the health of the organism is not compromised.

It is necessary for a research center, such as the Arizona Health Sciences Center, to have the capability of providing these analyses. We are fortunate in that we presently have at our disposal a unique "state-of-the-art" laboratory which offers various powerful tools for studying complex mixtures of compounds from blood, urine, air, water, or virtually any organic material of interest. The "Laboratory of Analytical Chemistry and Mass Spectrometry" is administered through the Department of Pharmacology in the College of Medicine.

The charter of the laboratory is to support the research and clinical needs of the College of Medicine and the citizens of the state through the application of analytical techniques such as gas liquid chromatography (GLC), high performance liquid chromatography (HPLC), and gas chromatography/mass spectrometry (GC/MS). The latter analytical tool, GC/MS, is a powerful technique that can identify virtually any organic, biological or pollutant substance and break it down to its component parts or "fingerprint" for unambiguous identification.

The Laboratory of Analytical Chemistry and Mass Spectrometry uses the GC/MS in its daily routine to provide researchers, clinicians and state health personnel confirmation and analysis of various compounds of interest. The GC/MS provides the "fingerprint" of the compound in the form of a hard copy or "spectra" which contains various "spectral lines" or relative abundances of chemical elements. By studying the "spectra" one can actually build the chemical compound of interest in a similar manner as putting together a "jigsaw" puzzle. Therefore, any unknown organic compound such as a pollutant, toxin, or poison can be identified.

The instrumentation of the laboratory is being put to a number of uses at the Arizona Health Sciences Center and by users from throughout the state. In addition to analyzing various biological compounds, the GC/MS is being used to help physicians monitor patients who have taken "unique" street drugs or toxic substances that are not commercially available. In many cases, the drug or toxin ingested may not be known and the GC/MS is the only analytical instrument capable of identifying it so that proper therapy can be started.

Other applications consist of monitoring air and water for potentially toxic pollutants such as trichloroethylene (TCE) and phthalate esters from plastics. The laboratory is currently working with the Arizona State Department of Health Services to become a primary site for the analysis of water and air pollutants. It presently monitors the environment of the clinics and laboratories of the Arizona Health Sciences Center for any problem substance that may be a concern.

The analytical services of the laboratory are available to users in the state on a cost of service basis. This important resource for research, service and teaching has added a crucial dimension to the maintenance of health for the people of Arizona.

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# The "Growth Disease" in American Institutional Medicine

## An Open Letter to Physicians and Hospital Board Members

The medical system has become huge, having followed an explosive industrial-type growth pattern. Hospitals and medical centers have been oriented to expansion, and medical administrators—both lay and physician—have been bred according to the growth concept. The rule has been that growth equals progress and, hence, success. Hospital leaders are loath to give up this measure of achievement, which they have learned from industry, although it is a concept that leads to great costs in money and efficiency and that runs contrary to our social needs.

The growth-oriented administrators of our medical institutions are generally supported by strikingly passive governing boards, almost always consisting predominantly of businessmen, who casually provide their legal authority and psychological support to the administration. The resultant growth includes more buildings, more facilities, larger staff, more support personnel, more administrators, and more power concentrated in a central administrative office. Ironically, the boards of these institutions allow the administrators to violate good business principles. Examples include the expansion of physicial facilities and the purchase of costly equipment without adequate financial resources and the increased hiring of administrative planners and service personnel despite overburdened budgets. Thus, patient-care fees are forced ever higher without due consideration to the long-term consequences of such violation of good fiscal practice.

At the end of each year, hospital administrators turn to the community to be bailed out of their financial deficits. Why do governing boards support such patently poor business practice? Unfortunately, few medical institution board members become experts in the provision of medical care. Most are far too successful and busy on their own economic battlefields and fail to use their management and financial skills in their function as board members. Thus, feeling inadequate to assess medical-care provision systems, inspired by the usual institutional loyalties, and lacking any personal stake in the fiscal success of the institution, they do not effectively challenge or monitor the strong administrative leadership that they install.

While there is relative fiscal chaos in so many hospitals and medical institutions, increases in physicians' fees roughly parallel the rate of inflation. Some medical centers have wisely resisted unrestrained expansion in favor of carefully defined goals. It should also be noted that there is a movement in the country, a classic capitalistic approach, which has demonstrated a remarkable ability to run medical institutions effectively—usually pleasing both physicians and patients—and to make a substantial profit. Corporations that own and administer hospitals under contract, particularly in the South and Southwest, have been expanding with impressive speed. These organizations have learned how to control administration, how to provide for selective growth, and how to make a good profit. Unlike the businessmen on nonprofit hospital boards, they have applied their business experience to the management of hospitals. The criticism that they restrict their activities to profit-making areas is undoubtedly valid. But their effective fiscal policies should be noted. Such corporations obviously represent a threat to the vast number of hospital administrators who still believe that the ultimate bailout for financial deficit will come either from the government or from wealthy donors. The political climate suggests that the former will be an increasingly unlikely source of aid, and the latter have already proved to be a fickle Galahad.

The lay members of hospital and medical center governing boards should carefully assess their roles. If they conclude that they have been passive and have inadvertently been aiding and abetting poor fiscal policies, they should either become experts in the fiscal aspects of medical care provision systems—thus properly fulfilling their responsibility to the community—or consider resigning. Most lay members of medical boards are genuinely interested in serving well; such service must include more than seeking a strong chief executive officer.

We need strong, committed boards with members who will take real responsibility for institutional fiscal sanity. But an effective hospital board must consist of physicians as well as dedicated lay members who establish sound financial management; the physicians must define appropriate patient-care goals for medical institutions.

Physicians should sit on hospital boards and actively accept responsibility for running their institutions. They should and can limit costs, and they can do so only if they are in positions of authority. Physicians know what is needed effective and humane patient care can recognize what is superfluous what is essential. Moreover, if they responsibility and authority, they ca held properly accountable by community.

The medical care delivery system gotten out of hand. We must unders that our society requires priorities that certain goals take precedence increasingly complicated mec technology. The development of me center boards composed of physic who understand medical care knowledgeable laymen committe sensible fiscal policies of restraint balance would do much to bring hos medical care out of its present morass.

Albert J. Miller, M.D.

Department of Medicine,
Northwestern Memorial Hospital,
Chicago, Illinois

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# A Time of High Adventu

Presented to the House of Delegates o American Medical Association, June 1982

One year ago, in my inaugural add to this Association, I said, "The Amer Medical Association's agenda for the must include innovative and dyna cost programs. If we do not affirmati lead the private sector in containment, that initiative will be from our grasp."

Last December at the Interim Sessi said, "Cost of medical care is a lea national concern. . ." In the ensuin months, that concern has dramati increased to an explosive level, today, at a time of great anxiety over fiscal affairs of our country, the dem for innovative and dynamic leader has never been greater.

Our Nation's health care expendit in 1981 rose to about $278 billion increase of 12.7 percent over preceding year, and 9.5 percent of gross national product. Hospital expe tures alone rose to $112 billion, ove percent of the total. The nation average cost of hospitalization is

) per day, and in some areas higher. re are more people who need care, care they need is more intense and e complicated, and the higher cost of care intimately reflects our national nomic condition.

or its entire life, the American Medical ociation has turned its full capability to erment of the public health through scientific and educational programs, has woven a private health care em within the sturdy fabric of profes- alism and freedom. And as you know, American Medical Association has ertaken a variety of activities aimed cifically at cost containment. These rts have primarily stressed economics elivery and perforce are limited by the ities of inflation and the national nomy. An added thrust is needed.

ast December I discussed perspectives cost, pointed out that preventable ess, which includes trauma, accounts one half of our total health care enditures, and I outlined an approach cost containment that focused on ucing demand for health care, serving quality and availability, and great potential for combined health cost benefits through prevention. In light of current economic events, and t I sense to be a surge of intense lic interest in prevention and good lth habits, I feel compelled to further ance this somewhat straightforward mise, and strongly emphasize again far reaching economic and public lth consequence of preventable ess.

reventable illness is one of the great- plagues ever to beset mankind. It kills, bles, insidiously erodes our health, quality of our lives, and our resources. truly a modern American tragedy. In a le year, preventable illness alone ms as many American lives as the nd total of all American lives claimed attle wounds in all the wars fought by country from the Revolution in 1776 ough Viet Nam.

ardiovascular disease, our leading se of death, accounts for nearly one of our annual mortality. Smoking is a or etiologic factor in cardiovascular ase. Cancer is our second most ortant cause of death. The American cer Society estimates that smoking ounts for 30 percent of all cancer ths, about 129,000 Americans this , 111,000 from lung cancer. The total nber of premature deaths attributed moking is estimated to be 350,000 per , primarily from cardiovascular ase and cancer.

ccidents are the third leading cause of th in the United States, and claim well 100,000 lives per year. Vehicular dents alone kill well over 50,000 ericans every year, more than the total n battle wounds in Viet Nam, or Korea. In addition, every year there are approximately ten million non-fatal disabling accidental injuries from all causes in the United States, and about 360,000 result in permanent disability. Automobile accidents alone cause two million of those non-fatal disabling injuries, again, more injuries in a single year than the grand total of all the nonfatal battle wounds sustained by Americans in all our wars from the Revolution in 1776 through Viet Nam.

Alcohol is a major factor in both accidents and disease, accounts for one half of the fatal vehicular accidents, and about one half of the deaths from falls, drownings, burns and suicides. Altogether, alcohol is estimated to cause about 205,000 premature deaths each year.

Finally, the cost of preventable illness is as devastating and tragic as the consequences to life, health and happiness. According to federal estimates, preventable illness accounts for at least one half of the total annual health care expenditures in the United States. In 1981 that amount was $139 billion. Even a modest five percent savings would reduce costs in a year by some $9 billion, more than current proposed cuts in federal health care spending.

In my opinion, there is no greater opportunity simultaneously to better the public health and lower health expenditures than prevention. And although prevention actually postpones medical need to a later time, the overall benefits through improved productivity and quality of life will provide substantial human profit.

Therefore, I call upon this House of Delegates and the American Medical Association to lead all physicians, and Americans, in an aggressive nationwide crusade to better the public health and conserve our national resources for health care through prevention. I ask that you adopt the following action plan:

1. Reaffirm the Association's past actions that pertain to the health hazards of tobacco, alcohol, accidental injuries, unhealthy life styles, and all forms of preventable illness.
2. Intensify the Association's leadership in promoting better health for Americans through prevention.
3. Recognize that preventable illness is a major deterrent to good health and accounts for a major portion of our country's total health care and expenditures.
4. Actively initiate and support appropriate scientific, educational, and legislative activities that have as their goals: a) prevention of smoking and its associated health hazards, b) avoidance of alcohol abuse, particularly that which leads to accidental injuries and deaths, c) reduction of death and injury from vehicular and other accidents, and d) encouragement of healthful life style and personal living habits.
5. Strongly emphasize the important opportunity for savings in health care expenditures through prevention.

This kind of plan will further strengthen the American Medical Association's visible leadership in matters pertaining to public health, will signify our intent to respond positively to the health and economic needs of our country, will enable the public to better comprehend the true perspectives and realities of the health care cost issue, and will enhance our overall cost containment program. It is a plan which draws upon established Association Policy, such as proposed by our distinguished Council on Scientific Affairs, and requires only a reshaping of our effort with minimal additional expense. But it will be a vital and vigorous undertaking, and one which will clearly say to Americans: "Your better health is our concern." I ask your approval.

As a further consequence of my great concern over the cost issue, I suggested to this House of Delegates last December that we "should aggressively promote a fundamental, coherent, and long range national policy on the cost of medical care. . ." and that such a policy should address cost containment in a way that protects quality and availability. Your Board of Trustees subsequently approved and expanded this proposal, and you have it before you at this session in Report S of the Board. It was my great honor, on behalf of the Association, to carry the message of our intent to Congress earlier this year. In my opinion, the project to develop a National Health Policy will be a landmark undertaking for the Association. I urge you to give it your most careful consideration, and your approval.

For seven years the American Medical Association has fought Federal Trade Commission intrusion into the medical profession. We spent millions of dollars. We have gone to court. When the Supreme Court deadlocked on the issue a few weeks ago, it was clear there would be no judicial relief. So we took the case to Congress—and now people are paying attention. But there is much misunderstanding about the American Medical Association rationale and about the FTC's abilities. Now that we have everyone's attention, we must clearly make our case.

We believe the Congress of the United States did not intend the FTC to have jurisdiction over or pre-empt state laws governing the professions. The FTC was formed to have jurisdiction over business and industry. In our battle to get out from under unwarranted FTC attack, the American Medical Association has been accused of asking for exemption from federal antitrust laws. That is simply not true. We specifically told Congress we did not want to be exempt.

The federal antitrust laws are enforced by the U.S. Department of Justice and serve this country and the professions well. What we ask is that charges of improper conduct by professional groups be tried in courts with impartial judges, not tried in administrative hearings before salaried employees of the agency making the charges.

Over the next several weeks, we must wage a powerful campaign that clearly convinces Congress, the public, the press, and our membership that the FTC is not capable of regulating the professions, that it does not have the expertise to understand the kinds of judgments physicians make every day in treating their patients. We will need to mobilize every resource of organized medicine, local, state and specialty societies must join forces with the leadership of the American Medical Association and go forward—more assertively than ever before. The time is now and the issue has never been more important. I ask for your support.

The American Medical Association is a great cornerstone of freedom in our country, and we have fought with courage and success to preserve that free environment which is the essential ingredient of true professionalism. I say again to you: We must never fail in that effort. We have much to be proud of, and I, as your President, am extremely proud. I am proud of the strength of the American Medical Association, your response to the call to build membership, unity, and participation, and your dedication to our goals and principles.

I am proud of our vast scientific and educational achievements, the great good we have done in our country, and in the world, as we reach out to share our rich bounty of knowledge and capability with others less fortunate. I am proud of the growing enthusiasm for the American Medical Association by young people—medical students and house officers—whom I am delighted to see participate so effectively throughout the Federation, in leadership roles within this House, and now so capably with our Board of Trustees. I am proud of our Auxiliary—the equal partners—who share our goals, our achievements and our heartaches. I am proud of our battle to free professions from the unwarranted intrusions of the Federal Trade Commission, our responsible policy on nuclear warfare, our proposed National Health Policy, our computer technology, our plan for continuing medical education, our patient medication information program, our socioeconomic monitoring, and the whole incredible array of people and machinery and knowledge and actions that make our great Federation come alive and move—day, after day, after day.

I could not have found a more thrilling time to be your president, for this decade of the 80s will stand as one of the most exciting and memorable times in the history of our great country. We are beholding a political, economic and social renaissance, a dramatic time of renewal, and extraordinary events are taking place. And, characteristically, our Federation stands out front. I am confident it will stay out front.

As your President this year, I have received far more than I possibly could give. My professional and personal being has been lavishly enriched. It has been a time of exhilaration, color, and of great, high adventure. I humbly thank you for giving me the great honor to serve you.

Daniel T. Cloud, M.D.
President,
American Medical Association

## Chairman's Report Your Health Manpower Committee

Too many physicians? Too few physicians? Poor distribution of physicians? Too many specialists? Too few primary physicians? These questions are being asked by government, industry, consumers and physicians. The answers to these questions, as it applies to the physicians in the State of Arizona, are being addressed by your Committee on Health Manpower. As the cost of caring for the sick of this nation continues to escalate faster than the cost of most other services in the past decade, the interest in physician manpower continues to grow.

In 1976, Congress commissioned the Graduate Medical Education National Advisory Committee to assess the nation's physician manpower needs to the year 2000 and recommend changes in physician education to accommodate those projections. Four years later the report was made to the Secretary of the Department of Health and Human Services. In spite of considerable criticism concerning the accuracy of the six volume report it will remain the standard for decision makers until a better physician manpower assessment document is available.

The essential of the report states that there will be an excess of 70,000 p sicians by 1990 and 145,000 in 2000. lessen the potential impact of this glu physicians on the nations health costs recommendations were made. T majority of these recommendati affect medical training in some way, su as reduction of medical school enr ment coupled with an alteration in curriculum to both discourage a encourage certain specialty traini projected to be in either excess or sh supply by the Committee. The premise the GEMENAC report is that counteract the presumed surplus physicians, government regulatory for must be put in place. Your Hea Manpower Committee's position is t such government intervention response to a needs assessment has proven successful in the past, and ther nothing to suggest success at the pres time. It is known that arbitrary regulat forces stifle opportunities for mark place forces to operate.

The Health Manpower Committee also focused attention on the operat of the National Health Service Corps Arizona. This agency attempts to pl physicians and other health profession in shortage areas through its scholars program. Designated shortage ar assigned by the NHSC program are always consistant with opinions of hea professionals in those locations. For t reason local input is being sou through ArMA and interaction with American Medical Associatio Physician Placement Service. This m prove to demonstrate that an effect working relationship between gove ment and local and national provi forces to solve a complex medi manpower problem can work.

Finally, we members of the Hea Manpower Committee maintain constant awareness of current positio taken by other licensed hea practitioners (chiropractors, naturopat etc.) and allied health profession (nurses, dentists). Position papers ha been developed that seek to insure t those licensed to deliver health servi have appropriate education and traini to adequately serve those who seek th help.

The future problems involving hea manpower will not be easy to solve but stated by Doctor William Holden in t *New England Journal of Medicine*, Mar 1, 1979, "the issue of physician manpow can be addressed only when adequa data are available concerning t regional epidemiology of disease a trauma, the medical services provid and the productivity of physicians."

Laurence M. Linkner, M.D.
Chairman
Health Manpower Committee

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# *Briefly Noted*

**Joseph Blech, M.D.** and **Grace L. Busch, M.D.**, Chandler, were among the more than 1,000 physicians attending the 34th annual meeting of the Illinois Academy of Family Physicians in Chicago in May.

**Dennis D. Patton, M.D.**, Tucson, and **Robert E. Stejskal, M.D.**, Phoenix, have been selected for Fellowship in the American College of Radiology (ACR) and will receive their awards at the ACR's annual meeting in Boston in September.

**Philip B. Serlin, M.D.**, Tucson, was recently appointed Medical Director for St. Mary's Hospital and Health Center's Spalding Diagnostic Center.

**William A. Sibley, M.D.**, Tucson, professor and head of the Department of Neurology, University of Arizona Health Sciences Center, received the Hope Chest Award from the National Multiple Sclerosis Society in May. The award, the society's highest honor, was given to Dr. Sibley for his scientific and clinical leadership during the past several years.

**John M. Johnson, M.D.**, Phoenix, was reappointed Councillor to the State of Arizona, The Southwestern Surgical Congress, at that organization's 34th annual meeting in Coronado, California, in April. Vice Councillors appointed for the State of Arizona are **Neil C. Clements, M.D.**, Tucson; **Robert B. Gilsdorf, M.D.**, and **Robert B. Leonard, M.D.**, Phoenix; **Richard T. McDonald, M.D.**, Flagstaff; and **Dennis E. Weiland, M.D.**, Scottsdale. **Howard D. Cogswell. M.D., George H. Mertz, M.D.**, and **MacDonald Wood, M.D.**, Phoenix, are past presidents of The Southwestern Surgical Congress.

**Meet the Press** — The following physicians presented medicine's view of the news when they were interviewed recently on radio and television: **Thomas M. Foreman, M.D.**, Tucson, appeared on KGUN TV to answer questions about the rising cost of insurance and its effect on physicians. In Phoenix, **Edward Sattenspiel, M.D.**, explained the medical facts concerning the royal birth to viewers of KTVK TV; **John Bruner, M.D.**, discussed the fiber diet and its relationship to cancer on KPNX TV; and ArMA's immediate past president, **Clyde W. Kurtz, M.D.**, told the KTAR radio audience what physicians were doing about health care costs.

## What They Are Saying

### Same Story—Different Verse.

### A Medical Riddle

"It puzzles me that if everyone's physician is great, how is it that all of medicine is looked upon as bad?" Michael I. Frelich, M.D., *LACMA Physician*, June 21, 1982.

"My doctor is nice; every time I see him I'm ashamed of what I think of doctors in general." — Mignon McLaughlin.

**Louis J. Kettel, M.D., Dean of the College of Medicine accepts a check for $12,691.46 from Jeanne Weiland, Chairperson of the Arizona Medical Association Auxiliary's Education and Research Foundation. The unrestricted grant was presented at ArMA's recent 91st annual meeting.**

# Radiology Case of the Month Continued

## Answer:

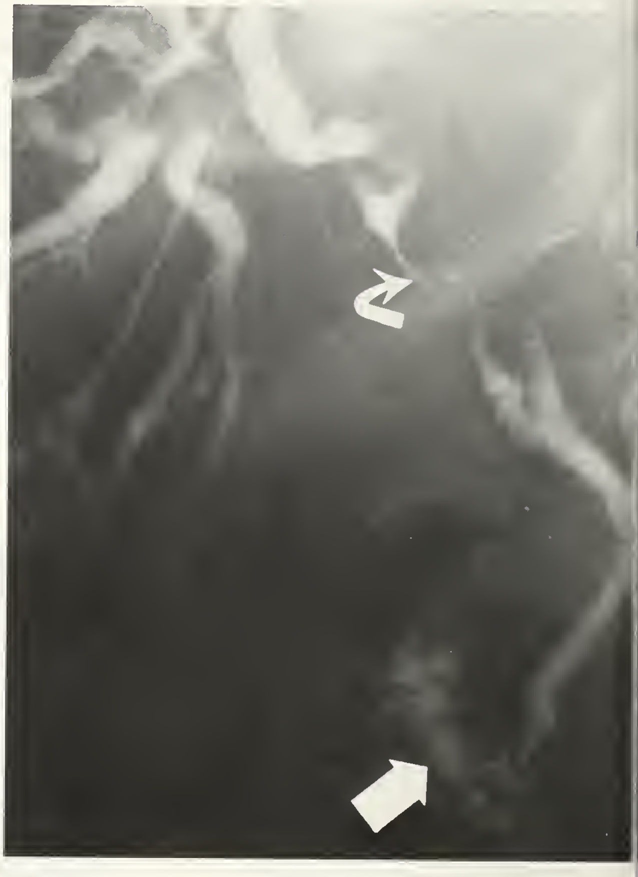

Figure 2

The study is a Percutaneous transhepatic cholangiogram. There is "encasement" and partial obstruction of the bile ducts (curved arrow). Contrast has passed through the sphincter of Oddi into the duodenum (straight arrow). The differential diagnosis includes metastases to the porta hepatis, cancer of the bile ducts, cancer of the pancreas, and cancer of the gall bladder. Since CT and ultrasound had revealed liver metastases, a catheter was placed percutaneously into the dilated distal bile ducts. This paliative procedure allowed relief of the obstructive jaundice without major surgery. The patient eventually succumbed to his disease, and an autopsy revealed widely metastatic bile duct cancer.

Cholangiocarcinoma occurs in the elderly and is often associated with liver disease, gall stones, ulcerative colitis, and biliary fibrosis. Infestations of Clonorchis sinensis, the Chinese Liver Fluke, increase the risk of cholangiocarcinoma in Vietnamese and other Oriental immigrants.

The presenting symptoms are vague upper abdominal pain, malaise, nausea, and weight loss. Jaundice occurs with obstruction of bile ducts. Most patients die within four to six months of the initial symptoms.

Percutaneous transhepatic cholangiography with a "skinny needle" is a relatively safe procedure. It helps differentiate between obstructive and hepatocellular jaundice. It defines the anatomy and narrows the differential diagnostic list. Often a decompressing catheter can be placed during the same procedure relieving the jaundice and its unpleasant symptoms. Both reduction of surgical mortality and prolonged survival of nonoperated patients can be accomplished by percutaneous catheter drainage.

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*Medical History*

# ıe Practice of
# edicine By Four
# nerations of the
# elick-Dodge Family

## compassing the years
## 20 through 1982

mont W. Melick, M.D.

tor:
ın W. Kennedy, M.D.

**oduction**

will first introduce you to the indi-
ials who make up the four gener-
ns of physicians who have practiced
licine within the confines of the
ted States. I will then make some
inct remarks about each one so that
know where and how they practiced,
a few remarks as to my opinion as to
r dedication and accomplishment.

ne of the most delightful discoveries I
le in my research for this paper has to
with my Great Grandmother Sally
lge Morris. At age 82 she wrote of her
erience on the wild Western frontier
I will excerpt from her memory of
e times so that you know that
ternized easterners were a hardy and
urceful group of individuals who
d from day to day with danger and
th not far away. The four physician
estors were:

**Leonard Dodge.**

r. Leonard Dodge was a medical
sionary among the Osage Indians. He
ned his medicine by rote from one Dr.
liam Belcher, with his beginning
ching dated as of 1820 when he was 16
rs of age. At the age of 20 he was as
versed in the methodology of the
ctice of medicine as could be obtained
n Dr. Belcher, and he was thereafter
his own." He may have administered
he Indians but his main concern was for the emigrants from the east who took on the assignment of establishing two missions in the Osage country—the Harmony Mission and the Boudinot Mission under the leadership of his father, a well regarded and capable Congregationalist minister from Massachusetts, Nathaniel Brown Dodge.

**Dr. Wesley Melick.**

Dr Wesley Melick obtained a formal four year medical education at the University of Pennsylvania. He departed Pensylvania for Missouri soon after graduation on the advice of his first cousin, Dr. Josephus Leidy, who was his anatomy teacher during his freshman year in medical school 1853. He settled seven miles from Nevada, Missouri, in a small village called Horton, and established himself in practice with a Dr. Redfield. He was a well regarded physician, and a serious farmer and raised and cured hogs as an addendum. He was known over Southern Missouri as the owner and landscape artist for Evergreen Farm.

**Dr. Prince Albert Melick**

The name is astonishing to most people as they presume that he was a prince with the blue blood of English nobility coursing through his veins. Not so at all. The name is explained by the fact that his mother was an anglophile. He was born in 1869 and as you will readily recall this was during the hey day of Queen Victoria, and Prince Albert was the consort. Although I never heard my father remark about his mother's choice of names, I can assure you that he never introduced himself to anyone as "Prince Melick". He was content with the cognomen of "Doc Melick" although his classmates in medical school gave him surcease from the awkward Prince Albert by calling him Duke. My mother, Cora Desiree Wilson Melick, never called him Prince except on one occasion. She was mightily irritated with him for something I cannot recall. To emphasize her irritation she emptied a handy gravy boat over his head, gave him a rap with the empty gravy boat and said: "Prince I trust I am coming in loud and clear."

My father practiced in Williams for 34 years after one year of practice with his father in Missouri. His father advised him to go West to a milder climate when he came near death with pneumonia that first year in practice.

It is curious that my father did not seek a formal four year education. I think this can be explained on the fact that he wanted to get married and it was too much bother to delay marriage by four years of formal education. So he attended a proprietary medical college Beaumont Medical School where they graduated him at the end of two years. At age twenty-three he was a "full fledged" doctor and married to Cora Desiree Wilson. In these days of extensive study demanded of each and every physician, be they allopathic or osteopathic, it seems obvious that my father was ill prepared to treat the lame, the halt, the blind, or the sick of any kind. He learned his medicine by practicing on patients. This connotation "practicing" differs from the present day connotation which guarantees that no modern doctor gets to treat a patient until he is well indoctrinated and given approbation by his medical teachers, beginning in medical school, through internship and specialty training. Possibly the categorization of my father as a cross between a minister and a doctor was the proper one. He was able to create a certain charisma that allowed his patients to believe that he knew everything about everything. His mistakes (and there were some of these) were passed off as the will of God without any thought of malpractice. He practiced medicine exactly like the old grizzled airplane pilot—by the seat of his pants, hoping for miracles to keep him out of trouble.

**Dermont Wilson Melick, M.D.**

Dermont Wilson Melick, M.D. was born in the territory of Arizona, (Williams, Arizona) in 1910, and remained in Williams until age 17 when I attended the University of Arizona, graduating in 1931. I attended my grandfather's medical school (University of Pennsylvania) graduating in 1935. I took a two year internship at the Graduate Hospital in Philadelphia and went directly from there to Williams to take over the practice of my father (who died in 1934) and act as Superintendent of the Williams Hospital (constructed by my father in 1898). I remained in general practice for fourteen months, then decided I wanted to be a surgeon.

I took a postgraduate nine month course in surgery at the Graduate School of Medicine, University of Pennsylvania. I went from there to a residency in surgery at the University of Wisconsin for three years, capping off my medical education with a residency in Thoracic Surgery at the University of Michigan before returning to the University of Wisconsin as an instructor in surgery.

I met and married Dorothy Helen Marvel in Madison, Wisconsin and our first son Richard was born there. I made the move to Phoenix, Arizona in 1945 to accept a partnership with Dr. Fred Holmes and Dr. Howell Randolph. This partnership lasted twenty-two years.

I then went to the College of Medicine in Tucson as Professor of Surgery (the first such appointment in that school) and Director of the Arizona Regional Medical Program. I remained in harness in the College of Medicine for nine and one half years. I finally decided I liked Phoenix better than I liked Tucson so I returned here in 1977 to accept an offer with my

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ented to the historians at The Arizona
seum on March 7, 1982.

previous partner, Dr. Austin Grant, and the recently arrived Dr. Neil Steinhoff to become a partner in Phoenix Heart and Lung Surgeons.

Due to age and certain physical disabilities I "hung up the gloves" of clinical practice as of June 1, 1981, much to the relief of my surgically involved partners, who made it plain that there are old surgeons and there are bold surgeons but neither one is conducive to a smooth working surgical team committed to the take-over of all of the cardiac and pulmonary surgery in Phoenix. I therefore took a General MacArthur powder and faded away in the mists of yesteryear.

Not to be discouraged, I now am deeply involved in the practice of Administrative Medicine, and with my son Richard I am looking forward to the activation of the Sahuaro Medical Arts Foundation. This is a foundation I organized in 1961 and the President of the Foundation, my son Dick, is gung ho to get it activated and on the road in the near future.

We can now turn to the group as physicians as they appear to me in their chosen profession and how they conducted their practices for the conservation of the health of their patients.

**Dr. Leonard Dodge.**

Unfortunately I cannot report any especially good or bad points about his practice. It is obvious that he was as much of a missionary as he was a physician and it has made me wonder why he did not follow in the footsteps of his father Nathaniel Brown Dodge as one would have expected one of the sons to do this. Nathaniel Junior was killed by the Indians before he had a chance to make up his mind what he wanted to do with his life. We can be sure that Leonard had a good deal of intestinal fortitude, as he ran the risk of suffering the same fate as his brother on at least one occasion. His sister Sally Dodge describes his action when confronted by an Osage Indian brandishing a tomahawk and bent on taking the scalp of Leonard. This Indian buck pushed his way into the cabin where Sally and Leonard were housed and made no bones about the fact that he was on the war path. As he approached Leonard with mayhem in mind, the doctor picked up a long metal pole used for log placement in the fireplace and before our Indian friend knew what was up, he was confronted by Leonard who rammed the pointed end of the fireplace iron into the middle of his belly. Sally said "The doctor punched the Osage out the door." He departed grunting and groaning from a very sore belly and he never returned.

Not to be outdone by her brother, Sally had an even more hair-raising experience. She was sitting in the cabin door amusing one of the children when seven of the Osages presented themselves with the terse demand that the white lady bring to them all of the cooking utensils in the cabin. She could speak their language. This was the first surprise they had. Nevertheless, the Indians began twanging the buckskin strands on their bows and making motions as if they were going to use Sally for target practice. Using decisive and loud Osage Indian language she said she would not give tham anything at all. As they lingered and pow-wowed Sally picked up a club and made a run at the group. The combination of her speaking the language of the Osage and the fact that she was a beligerent female made the Indians believe she was a devil in disguise and they departed on a high gallop. One wonders if they might have been influenced by the fact that most Indians labor under a "matriarchy," and they were simply responding to the command of a mother figure. The length of time Leonard remained in the Osage Country is unknown. Sally departed for California in a Conestoga covered wagon and she never set down any further tales of the fate of Leonard or her father Nathaniel.

**Dr. Wesley Melick:**

I visted my father's home in Horton, Missouri on only one occasion when I was around four years old. I remember Wesley as a tall, dark, dour man who had long, boney, Lincolnesque hands. The latter I recall as my mother asked him to take me to the pig pen and watch them slop the hogs. I remember my small hand in his large one as we walked down to see this interesting morning ritual. The smell convinced me at that early age that hogs were not then nor were they ever to be my cup of tea.

Dr. Wesley's saddle bags are here for your viewing. He made his rounds on horse-back. He was often gone for days at a time in case he had a number of women who were about to deliver. He lived by the word of God. It was a ritual each evening to gather round the fireplace and read from the Bible. Sunday was spent in the usual religious services at the nearest church. My father was thoroughly indoctrinated in this routine but when he finally managed to escape this environment he never attended church or read from the Bible. He never made any attempt to carry out the same kind of religious discipline with his three sons. He said at one time that he had had his fill of religion as a youngster and he put his belief in the fact that if one lived a clean wholesome life with dedication to the care of the sick that St. Peter would treat him kindly despite his disavowance of religion as an adult.

Wesley visited Prince only one time in Williams, Arizona. I was not born at that time, but I do know my Dad (who was an avid hunter) took him out in the woods
hunting. There is a photo preserved
that occasion. They managed to kill th
deer on that hunt.

Wesley joined up with the Union ar
and was given a commission as a Ma
The abdominal-aortic "tourniquet"
carried, and evidently used, is here in
memorabilia. It appears to me to b
useless piece of equipment as
presumably would close off the aorta
extreme external pressure by using
metal screw device. It was something
be doing when it was obvious a sold
was bleeding to death. Wesley carrie
flute through the war which he could p
with some facility, but I never heard
saw him use it. My mother's father
Lorenzo Wilson, and I mention him
passing only to tell you that he fought
surrended with Lee at Appamatox.
seems paradoxical that my Un
oriented father and and my mother
dedicated supporter of General Rober
Lee and the south) could find things
common to allow marriage, but that's
way it turned out. My mother to her dy
day bewailed the fact that Lee ran out
food. She was convinced a victory by
South was much to be hoped for at
time. In my medical school days we ha
goodly number of Southern gentlem
studying in Philadelphia. I can assure y
I was well received when I told about
granddad Wilson and General Lee. It
occasionally better to make talk about
North and again I turned chameleon a
professed that my granddad Melick
for Lincoln all the way.

Wesley became known through
Southern Missouri for his beautiful fa
(which he called Evergreen Far
because of the evergreen trees
planted in a large expanse in front of
house. He trimmed these evergre
meticulously and when he was
doctoring, or farming or slopping
hogs he was up and down a 15 foot lad
making his evergreen trees look pret

Wesley had occasion to discipline
father and his brother Victor. The he
discipline made them restless a
resentful. I understand they "jump
freight trains" all the way to Tucs
Arizona and then decided that starvat
was not a way to go. They returned
Horton, Missouri much chastened.

Wesley practiced until age seventy a
lived a quiet life up until age 91. One f
day my grandmother Mary Ann Bur
Choate Dodge Melick was found dea
bed (age 84). Thereafter Wesley refu
food and he died 30 days later. One fi
remark about Wesley is not a happy o
He disowned his first born, Anna
marrying a man of whom he did
approve. Anna was heartbroken,
determined. She died in childbirth a
producing three sons (by Whitfield
have never been able to understand h
my grandfather could have been cr

ugh to do this, but I presume there two sides to every story.

**ce Albert Melick.**

rince Albert Melick, as I remarked viously practiced medicine by the seat his pants. He was kindly, ever omistic, overly trustful of his fellow , and one who was either loved or ply regarded by anyone touching his He was a pre-Will Rogers advocate in he never met a man he didn't like. He er had a critical word to say about one, at least not in my presence. He y believed in doing unto others as he ld have them do unto him. He never d a profane word or at least he ided such language in my presence. I ned early in my childhood and youth y profane words which I used so n and to such an extent that I received one and only licking from my father o insisted such foul words be gotten.

e was a tireless practitioner of dicine. As a child, I can remember him wering the phone at night and very quently following that with a trip to the bed of the one in distress. This would sometimes two or three times per t. He truly practiced twenty-four rs a day all of his professional life.

here was one two-week period each when he departed for the hunting unds and he was not to be found. This us started on his birthday, October 15, ended on November first. When he ted he believed in walking at full le hour after hour. I found I could not p up with this pace and when we were otion an hour or so I was glad for him arry my gun for me, as I had lost all rest in the deer we were after. He was best rifle and shotgun shot in thern Arizona. I have in my posion the large, solid silver cup he won 922 as Northern Arizona Champion trap shooting. I also have the cup I in the same year. It is exactly the size thimble and my only consolation is I won it by being a better shot than 's medical competition—a Doctor mer Jeffries.

ly father and another Missourian ided it was high time to bring utilities Williams. Between them they structed a light plant. They erected t poles on some of the prominent ners of the streets. My Uncle Victor hired to turn the lights on in the ning and off in the morning. The light nt looked like a huge success. The iams Hospital, which was also built by ce, was the first to have electric lights the first to have steam heated ators for warming the hospital.

nagine, the shock it must have been to concerned, but particularly to my er and his partner when the light nt burned to the ground one cold ter night. No attempt was made to rebuild as the city fathers decided it was time for incorporation and time for the responsibilities of utilities to be assumed by the town of Williams.

Dad went broke twice in the cattle business, once in the copper mining business, once in the lumber business and finally to cap it all his dream of colonizing Carrizo Springs, Texas went a glimmering. He had visions of a small city which he named Denton Colony as an agricultural haven for emigrants from the East. It proved to be an expensive and totally unsuccessful venture. In all of this recounting for you at this time, I am sure you must have concluded that Prince was either snake bit or he was totally ignorant of every venture he launched. Could be, but an old friend of his said this to me, "your father was a poor business man but he had a heart of gold and the moral strength of a lion—he had misadventures but he never uttered a word of complaint and he never looks back. He is the true optomist in that he sees tomorrow as a new day of surprise and opportunity and he looks to the future with the wide eyed innocence of a new born babe."

In the deep Winter of 1934 he was called at night to go see an old cowboy friend of his, Tom Wagner, who lived ten miles distant from Williams. Dad was sick himself, and my mother tried to get him to ask Dr. Rounseville, or Dr. Jeffries to make the call. With snow three feet deep and the usual cold of winter my father got out of his sick bed to care for his friend. Ten days later he died of pneumonia in the Santa Fe Hospital in Los Angeles, April 16, 1934.

# *ArMA Reports*

**The minutes appearing in this section have been condensed. A complete copy of the minutes will be sent to any member requesting them.**

## EXECUTIVE COMMITTEE

The Executive Committee met on June 18, 1982.

Dr. Sarn, Director of the State Department of Health Services reported on the status of the AHCCCS program. He advised that the emergency rules and regulations had been issued and they would be followed by the final rules and regulations. Public hearings are scheduled to begin on Monday, June 21, and McDonnell Douglas has been selected as administrator. Great interest has been shown by provider groups in Pima and Maricopa Counties, with medium interest in three of the smaller counties and none in those remaining.

Subjects which were additionally touched on by Dr. Sarn were: Certificate of Need activities; budget cuts which had affected many of the department's services, including Crippled Children's Hospital; changes in health planning and HSAs; and the existing need for assistance for the maternal and child health programs carried on by the department, which are currently supported primarily by contributions from physicians and hospitals.

The committee reviewed and discussed the policy statement issued by Dr. Oakley regarding legal protection for team physicians and others and published in the 6/11/82 *Medical Memo.* It was moved and carried to approve and ratify the policy statement by Dr. John E. Oakley on behalf of the Arizona Medical Association made on June 11, 1982, regarding legal protection for team physicians and others, the statement is attached as "Exhibit A" and by reference made a part of these minutes. *(A copy of the statement can be obtained from the ArMA office and will not be reprinted here).*

It was moved and carried that a letter be drafted to the members of the Arizona Medical Association again setting forth what the "Good Samaritan" law is; the recent decision of the Arizona Superior Court which, if upheld, could have significant impact on the current law; and the ongoing activity of the

Association as it relates to sports injuries, their treatment, and the physicians involved.

It was further moved and carried that the section on Sports Medicine of the Professional Committee be delegated 1) to develop, with the assistance of ArMA's legal counsel and others, recommendations for legislative changes which would provide greater protection for those physicians involved in athletic events and the care of sports injuries; 2) to attempt, via the Department of Education, to obtain school participation in the provision of such protection; and 3) to develop a program involving the training of physicians, which would increase their awareness and education in the care and treatment of those injuries occurring during any type of athletic event.

It was moved and carried to refer the June 4, 1982 request from the Association for Retarded Citizens of the United States relating to a resolution on medical treatment for the mentally retarded to the Professional Committee, for review, comment, and recommendation.

Opinion rendered by the U.S. Supreme Court on June 18, 1982 in Arizona v. Maricopa County Medical Society was received by the committee and Mr. Jacobson briefly reviewed some of the effects that decision would have on the Foundation.

The committee discussed the pending federal legislation relating to pension profit-sharing plans and its impact on professional corporations and it was agreed that the membership be immediately notified of the provisions of the proposed legislation and requested to immediately contact their congressmen about it.

## SCIENTIFIC ASSEMBLY COMMITTEE

The Scientific Assembly Committee met on June 19, 1982. The purpose of the meeting was to establish guidelines for discussions to be held later in the day with representatives of various pharmaceutical companies and previous exhibitors regarding possible sponsorship of the ongoing "Current Perspectives" program.

The committee felt for a $300 sponsorship fee, they could provide a company with exposure to 42,000 licensed physicians in Arizona by including the company name on the Current Perspectives brochure. The company could display brochures and materials during the program and could have a representative available throughout the program to meet with the attendees. It was also determined if the company would like to provide a speaker and the chairman for that program was receptive, this would also serve to meet sponsorship requirements and afford the same benefits to the sponsoring company as already outlined.

The committee agreed that two letters should be sent. The first, would be to the local representatives and the second would be to the home offices of pharmaceutical companies telling them of the sponsorship program for the Current Perspectives program, how it came about, and informing them of the meeting schedule.

It was the consensus of the committee members that some type of formal liaison should be established between the appropriate committee of the Association and the Arizona Pharmaceutical Representatives' Association.

## AM Future Medical Meetings

The following institutions and organizations have been accredited for their continuing medical education programs by the Arizona Medical Association and/or the Accreditation Council for Continuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Heart Institute
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O Boswell Memorial Hospital Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center of Northern Arizona
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St Joseph's Hospital & Medical Center, Phoenix
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program, (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

## AUGUST

**Critical Care: Back to Basics**
August 28. Arizona Biltmore Ho
Scottsdale. Sponsor: St. Luke's Mec
Center. Contact: Christine Campt
Medical Meeting Planner, St. Luke's Mec
Center, Phoenix, Arizona 85006.

## SEPTEMBER

**Hematology**
September 11. University of Arizona He
Sciences Center. Sponsor: University
Arizona. Contact: Office of Continu
Medical Education, U. of A. Health Scier
Center, Tucson, Az 85724. Approved f
hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
September 15-17. Arizona Medi
Association Office, Phoenix. Sponsor: AC
AZ Affiliate Amer. Heart Assoc. & Ar
Contact: Beverly Richter, Arizona Med
Association, 810 West Bethany Home R
Phoenix, Arizona 85013. Provider co
approved for 21 hours of Category 1 cr
and Recertification approved for 13 hou

## OCTOBER

**Geriatrics**
October 2. Ramada Safari Resort, Scottsd
Sponsor: University of Arizona. Cont
Office of Continuing Medical Education,
A. Health Sciences Center, Tucson,
85724. Approved for 8 hours of Catego
credit.

**The Under-Achieving Child Behavorable Health**
October 8. The Registry Resort, Scottsd
Sponsor: St. Luke's Medical Center. Cont
Christine Campbell, Medical Meet
Planner, St. Luke's Hospital Medical Cen
525 North 18th Street, Phoenix, AZ 85
Approved for hour per hour Categor
credit.

**Advanced Cardiac Life Support Recertification/Provider**
October 12-14. Arizona Medical Associa
Office, Phoenix. Sponsor: ACLS, AZ Affil
Amer. Hospital Assoc. & ArMA. Cont
Beverly Richter, Arizona Medical Ass
iation, 810 West Bethany Home R
Phoenix, Arizona 85013. Provider co
approved for 21 hours of Category 1 cr
and Recertification approved for 13 hour

**Annual Scientific Program and Postgraduate Course**
October 13-17. Mountain Shadows Res
Scottsdale. Sponsor: Pacific Coast Fert
Society. Contact: Pacific Coast Fert
Society, 5820 Wilshire Blvd., #500,
Angeles, California 90036. Approved fo
hours of Category 1 credit.

**Fourth Annual Seeing Our Way Clear**
October 23. Arizona Biltmore, Phoe
Sponsor: St. Luke's Hospital and Med
Center. Contact: Christine Campb
Medical Meeting Planner, St. Luke's Hosp
and Medical Center, Phoenix, Arizona 85
Approved for hour per hour Categor
credit.

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Contemporary Hypnotic Therapy '82

Dalmane® [flurazepam HCl/Roche] Stands Apart

# The Physician's Sleep Glossary

## Some common sleep laboratory terms

**poly•som•no•graph.** An instrument which simultaneously records by electrodes physiological variables during sleep—for example, brain activity (EEG), eye movements (EOG), muscle tonus (EMG) and other electrophysiological variables. These readings indicate precisely when patients fall asleep, how many wake periods they experience, the quality of sleep and the duration of sleep.

**sleep la•ten•cy.** The period of time measured from "lights out," or bedtime, to the commencement or onset of sleep.

**wake time af•ter sleep on•set.** Intervals of time spent awake between onset of sleep and the end of the sleep period. The polysomnograph registers the length and frequency of the intervals.

**to•tal sleep time.** The amount of time actually spent in sleeping. This is estimated by subtracting wake times from the period encompassed by the onset and the termination of sleep.[1]

**REM/NREM.** 1. REM, or rapid eye movement, sleep is "active"—characterized by increased metabolic rates, elevated temperature and arousal-type EEG patterns. 2. NREM, or nonrapid eye movement, sleep represents "quiet" sleep stages. There are four distinct stages of NREM sleep.[2]

**re•bound in•som•nia.** A statistically significant worsening of sleep compared to baseline on the nights immediately following discontinuation of sleep medication.[3]

**Dalmane®** Ⓘⓥ
*flurazepam HCl/Roche*
*15-mg/30-mg capsules*

**Efficacy objectively demonstrated in the sleep lab oratory—the most valid environment for measuring hypnotic efficacy.**

In numerous sleep laboratory investigations patients fell asleep sooner, slept longer and woke up less during the night[3-12] with

**Dalmane®**
*flurazepam HCl/Roche*

Compared with temazepam and other hypnotics, onset of sleep is more rapid[4] with

**Dalmane®**

Fewer middle-of-the-night awakenings[4] with

**Dalmane®**

More total sleep time on nights 12 to 14 of therapy[4] and continued efficacy for up to 28 nights[5] with

**Dalmane®**

Rebound insomnia is avoided upon discontinuation [3,4,7] of

**Dalmane®**

Low incidence of morning "hangover"[14] with

**Dalmane®**

The efficacy of Dalmane has been studied in over 200 clinical trials with more than 10,000 patients.[3-15] During long-term therapy, which is rarely required, periodic blood, kidney and liver function tests should be performed. Contraindicated in patients who are pregnant or hypersensitive to flurazepam.

Please see summary of product information on following page.

**References:** **1.** Williams RL, Karacan I: Introduction, chap. 1, in *Sleep Disorders: Diagnosis and Treatment*, edited by Williams RL, Karacan I, Frazier SH. New York, John Wiley & Sons, 1978, p. 2. **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Kales A *et al*: *JAMA 241*:1692-1695, Apr 20, 1979. **4.** Kales A *et al*: *J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **5.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **6.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al*: *Behav Med 5*(10):25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **14.** Kales A, Kales JD: *Pharmacol Physicians 4*(9):1-6, Sep 1970. **15.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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flurazepam HCl/Roche)

**Before prescribing, please consult complete product information, a summary of which ollows:**

**ndications:** Effective in all types of insomnia haracterized by difficulty in falling asleep, frequent octurnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor leeping habits; in acute or chronic medical situaions requiring restful sleep. Objective sleep laboraory data have shown effectiveness for at least 28 onsecutive nights of administration. Since insomia is often transient and intermittent, prolonged dministration is generally not necessary or recomnended. Repeated therapy should only be underaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may ause fetal damage when administered during pregnancy. Several studies suggest an increased risk of ongenital malformations associated with benzodiazepine use during the first trimester. Warn patients f the potential risks to the fetus should the possiility of becoming pregnant exist while receiving lurazepam. Instruct patient to discontinue drug rior to becoming pregnant. Consider the possibily of pregnancy prior to instituting therapy.

**Varnings:** Caution patients about possible comined effects with alcohol and other CNS depresants. An additive effect may occur if alcohol is onsumed the day following use for nighttime sedaion. This potential may exist for several days folowing discontinuation. Caution against hazardous ccupations requiring complete mental alertness e.g., operating machinery, driving). Potential mpairment of performance of such activities may ccur the day following ingestion. Not recomnended for use in persons under 15 years of age. 'hough physical and psychological dependence ave not been reported on recommended doses, brupt discontinuation should be avoided with radual tapering of dosage for those patients on nedication for a prolonged period of time. Use aution in administering to addiction-prone individals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it s recommended that the dosage be limited to 15 mg o reduce risk of oversedation, dizziness, confuion and/or ataxia. Consider potential additive ffects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicial tendencies, or in those with impaired renal or epatic function.

**Adverse Reactions:** Dizziness, drowsiness, lighteadedness, staggering, ataxia and falling have ccurred, particularly in elderly or debilitated atients. Severe sedation, lethargy, disorientation nd coma, probably indicative of drug intolerance r overdosage, have been reported. Also reported: eadache, heartburn, upset stomach, nausea, vomting, diarrhea, constipation, GI pain, nervousness, alkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurences of leukopenia, granulocytopenia, sweating, lushes, difficulty in focusing, blurred vision, burnng eyes, faintness, hypotension, shortness of reath, pruritus, skin rash, dry mouth, bitter taste, xcessive salivation, anorexia, euphoria, depresion, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct ilirubins, and alkaline phosphatase; and paradoxial reactions, *e.g.*, excitement, stimulation and yperactivity.

**Dosage:** Individualize for maximum beneficial ffect. *Adults:* 30 mg usual dosage; 15 mg may sufice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until esponse is determined.

**Supplied:** Capsules containing 15 mg or 30 mg lurazepam HCl.

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## POSTGRADUATE DIAGNOSTIC RADIOLOGY COURSE

### October 29-31

**Sponsors:**
Edward E. Christensen
Memorial Trust and American
College of Radiology

**Location:**
Lincoln Hotel
Dallas, Texas

**Fee:**
$300 ($175 for residents with
letter from chairman)

**Credit:**
18 hours Category 1

**Contact:**
Dolly Christensen
(214) 688-2502
Continuing Education — Radiology
The University of Texas
Health Sciences Center
At Dallas
5352 Harry Hines Blvd.
Dallas, Texas 75235

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## NOVEMBER

**Second Annual Southwestern Poison Symposium**
November 5-6. Scottsdale Hilton Hotel. Sponsor: University of Arizona Health Sciences Center and Arizona Poison Control System. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 12 hours of Category 1 credit.

**Neoplastic Hematologic Disorders**
November 6-7. The Inn, McCormick Ranch, Scottsdale. Sponsor: Arizona Society of Pathologists. Contact: Grant A Hertel, M.D., Good Samaritan Medical Center, 1111 E. McDowell Road, Phoenix, Arizona 85006.

**Advanced Cardiac Life Support Recertification/Provider**
November 10-12. Arizona Medical Association Offices, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**XXX Annual Convention of the Medical Society of the United States and Mexico**
November 10-13. Guanajuato, Mexico. Sponsor: Medical Society of the United States and Mexico. Contact: Executive Secretary, 3161 North Pantano Road, Tucson, Arizona 85715.

**Models of Care and Rehabilitation in Traumatic Head Injury: A Southwest Symposium**
November 11-13. Scottsdale Sheraton Hotel. Sponsor: Good Samaritan Medical Center and Institute for Rehabilitation Medicine. Contact: Jean Smith, Institute of Rehabilitation Medicine, 1111 East McDowell Road, Phoenix, AZ 85062. Approved for hour per hour Category 1 credit.

**Diagnostic Advances**
November 13. U. of A. Health Sciences Center. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education. Approved for 8 hours of Category 1 credit.

**Urologic-Radiologic Diagnosis II**
November 19-21. Scottsdale, Arizona. Sponsor: Maricopa County General Hospital. Contact: Alex Newman, M.D., Maricopa County General Hospital, 2601 West Roosevelt, Phoenix, Arizona 85008. Approved for 22 hours of Category 1 credit.

## DECEMBER

**Second Annual Critically Ill Child Symposium**
December 2-3. St. Joseph's Hospital & Medical Center, Cullen Auditorium, Phoenix. Sponsor: St. Joseph's Hospital and Medical Center, Department of Pediatric Education. Contact: Pediatric Education, St. Joseph's Hospital & Medical Center, 350 W. Thomas Road, Phoenix, AZ 85013. Approved for 11.3 hours of Category 1 credit.

**Pulmonary Medicine**
December 4. Ramada Safari Resort, Scottsdale. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education. Approved for 8 hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
December 14-16. Arizona Medical Assoc. Offices, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

## 1983

## JANUARY

**Endocrinology**
January 22, 1983. U. of A. Health Sciences Center. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

## FEBRUARY

**Musculoskeletal Problems**
February 12. Ramada Safari Resort. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

**Fifth Annual International Cataract Surgery Symposium**
February 14-16, 1983. The Alamos Resort, Scottsdale, Arizona. Sponsor and Contact: The Eye Foundation, 525 N. 18th Street, Ste 504, Phoenix, Arizona 85006.

**9th Annual Frontiers in Ophthalmology**
February 17-19, 1983, Mountain Shadows Resort, Scottsdale, Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, 525 North 19th Street, Phoenix, Arizona 85006. Approved for hour per hour Category 1 credit.

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doctors Hospital, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Phoenix Psychiatric Council. Contact: James E. Campbell, M.D., 5051 N. 34th St., Phoenix, AZ 85018. Approved for 2 hours Category 1 credit.

**Monthly Meeting of Tucson Radiologists**
Last Tues. of month. Plaza International, Tucson, AZ. Sponsor: U of A Medical Center, Dept. of Radiology. Contact: Irwin M. Freundlich, M.D., U of A Health Sciences Center, Dept. of Radiology, Tucson, AZ 85724. Approved for 2 hours Category 1 credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix: 1st Tues.—Phoenix Indian Hospital, 2nd Tues.—Maricopa County Hospital, 3rd Tues.—Good Samaritan Hospital, 4th Tues.—St. Joseph's Hospital. Sponsor: Maricopa County Hospital (Phoenix Hospital's Affiliated Pediatric Program). Contact: J. Kipp Charlton, M.D., 2601 E. Roosevelt, Phoenix, AZ 85008. Approved for 1 hour per session Category 1 credit.

**Review of Forensic Pathology Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,000, Phoenix, AZ 85064. Contact: Ravi Koopot, M.D.

**Clinical Conference Cardiovascular Medicine**
Third Tues., 5:15 p.m., second floor classroom

## ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 85
Contact: Arnold L. Kendall, M.D.

**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf.
Contact: Dr. Conger & Staff

**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Servi
Bldg., Conf. Rm.

**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. C
Rm.

## BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Josep
Hospital and Medical Center, 350 W. Thon
Rd., Phoenix, AZ 85013. Sponsor: St Josep
Hospital & Medical Center. Contact: John
Green, M.D. Approved for 1 hour Categor
credit.

**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor C
Room.

**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and th
and fifth, Eighth Floor Conference Roor

**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurolo
conference room.

**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second a
fourth weeks, in Neuropathology C
Rm.—a multidisciplinary review of admiss
by neurosurgeons, orthopedists, a
rehabilitation specialists.

**Neuropathology of Gross Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.

**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conference

**Neuropathology or Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology
Neuropathology Conference R
Neuroradiology in First Floor Conferer
Rm.

**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference R

**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Fl
Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City,
85372. Contact: Martha R. Newby, ED
Director of Education.

**Medical Department Continuing Med Education**
4th Wednesday, 12 Noon, C119. May, J
Sept. & Nov.

**Tumor Board**
Last Thursday of the month, 12 Noon, Ed
Center Classroom I & II, May, July, Sep
Nov.

**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classroo
& II. Contact: Brian Updegraff, M.D.

# GASTROINTESTINAL AND BILIARY DISEASES

## October 2 and 3, 1982
## Desert Inn and Country Club
## Las Vegas, Nevada

Desert Springs Hospital presents its Fourth Annual Medical Symposium which will provide an update in recent advances in the evaluation and management of gastrointestinal and biliary diseases. Useful information for a contemporary physician to incorporate into his or her practice will be stressed.

**Guest Speakers:** **Avram M. Cooperman, M.D.**
Professor of Surgery
New York Medical College
Valhalla, New York

**Ernest J. Ring, M.D.**
Professor of Radiology in Surgery
University of Pennsylvania
Hospital of the University of Pennsylvania
Philadelphia, Pennsylvania

**Michael V. Sivak, Jr., M.D.**
Cleveland Clinic
Department of Gastroenterology
Cleveland, Ohio

**Johnson L. Thistle, M.D.**
Professor of Medicine
Mayo Medical School
Rochester, Minnesota

**Fee:** $150 covers the cost of instruction, materials, three meals and all breaks.

**Accreditation:** The Nevada State Committee on Continuing Medical Education has approved the symposium for eleven (11) hours of Category I CME credit. Eleven (11) credit hours have also been approved by the American Academy of Family Practice and the Nevada State Board of Nursing.

For course registration and information, contact Stephen A. Kollins, M.D., c/o Medical Education, Desert Springs Hospital, Box 19204, Las Vegas, NV 89119 (702) 369-7662

**Desert Springs Hospital**

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: T. F. Reid, Jr., M.D.

**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for Category 1 credit.

**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West End.

**Clinical Conference — Dept. of Medicine**
Weekly, Thurs., 12:30-1:30 p.m. Buffet Lunch, Grande Rm.

**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.

**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2

## DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.

**Physicians Continuing Education Program**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Sept. and December) Contact: R. Grossman, M.D

**Surgical Department Meeting**
3rd Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.

**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.

**Clinical Conferences**
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.

**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf. Rm.

**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf. Rm.

## GOOD SAMARITAN HOSPITAL

1033 East McDowell Rd., Phoenix, AZ Contact: W. J. Howard, M.D. Approved for category 1 credit.

**Anatomical Path. & Cytology**
Weekly, Mondays 4:00-5:00 p.m., S-4 Conf Rm.

**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., West Rm

**Monday Noon Conference**
Weekly, Monday, 12:00-1:00 p.m. R-2 Conf. Rm.

**Mortality/Morbidity, Surgery Comm.**
2nd Monday, 11:30-2:00 p.m., West Rm.

**Obstetrical Section Conference**
1st Monday, 12:30-1:30 p.m., West Rm.

**Pulmonary Disease Grand Rounds**
Weekly, Monday, 12:00-1:00 p.m., D-5 North

**Family Practice Conference**
Weekly, Tuesday, 12:00-1:00 p.m., Fam. Practice Conf. Rm.

**Pediatric Grand Rounds**
3rd. Tuesday, 7:30-8:30 a.m., Contact: Paul Bergeson, M.D.

**Phoenix Plastic Surgery Residency Conference**
Weekly, Tuesday, 5 p.m.-6 p.m., Education Building, Contact: Robert McGregor, M.D.

**PM & R Noon Inservice**
2nd & 4th Tuesday, 12 Noon, R-2 Conference Rm.

**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., West Rm, Contact: John A. Bruner, M.D.

**Combined Cardiovascular & Family Practice Conf.**
Ist, 2nd, & 4th Wed., 12:00-1:00 p.m., D-5 North.

**Learning Disabilities**
Weekly, Wednesday, 10:30-12:30 p.m., R-2 Conf. Rm.

**OBGYN Dept. Review & Statistics**
Weekly, Wednesday, 12:30-3:00 p.m., OBGYN Conf. Rm.

**Gynecological Pathology**
Weekly, Thursday, 1:00-2:00 p.m., S-4 Conf. Rm.

**GI Radiology Conference**
1st Thursday, 12:00-1:00 p.m., F151, Radiology Conf. Rm.

**Phoenix Ultrasound Soc. Meeting.**
2nd Thursday, Medical Education Building, Contact: Dr. Ben Ora

**Surgical Grand Rounds**
Weekly, Thursday, 7:00-8:30 a.m., Education Building, Contact: Dr. Gilsdorf

**Tumor Treatment Planning Conf.**
2nd & 4th Thursdays, 12:00-1:00 p.m., F151 Radiology

**Joint Tumor GYN Conference**
2nd Friday, 12:30-1:30 p.m., West Rm.

**Medical Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., West Rm.

**Neuropathy Conference**
Last Friday, 1:15-2:15 p.m., S-4 Morgue.

**Neurology Grand Rounds**
Weekly, Friday, 9:00-10:00 a.m., Amphitheatre. Contact: Dr. Hendin, M.D.

**Psychiatry Grand Rounds**
Weekly, Friday, 11:00-12:00 noon, East Rm.

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.

**Medical Conference**
Weekly, Monday, 12:30 p.m., Contact: Chief Medical Resident.

**Surgical Conference**
Weekly, Monday, Contact: R. Fischer, M.D.

**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.m., Contact: J Wurzel, M.D.

**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chief Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., C ference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical C ference Rms.

## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85
Contact: Leonard Tamsky, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M

**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz

**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Koppenbrink, M.D.

**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz R

**Obstetrical Problem Conference**
Weekly, Tuesday, 7:30 a.m., Yavapai Rm

**Orthopedic Conference**
Weekly, Tuesday, 7:30 a.m., Santa Cruz

**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Ro Ganelin, M.D.

**Urology Discharge Planning Conference**
Weekly, Tuesday, 11:30 a.m., Station 42

**Hand Surgery Conference**
Weekly, Wednesday,7:30 a.m., Santa C Rm.

**Neurosurgery Discharge Planning**
Weekly, Wed., 1:30 p.m., Station 42.

**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.

**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental He Annex, Rm. 1346.

**Surgery Conference**
Weekly, Wed., 7-8 a.m., Surgical Dept.

**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class R Contact: Dr. Tamsky.

**Cardiology Conference**
Weekly, Thurs., 2 p.m., Santa Cruz Rm.

**OB/GYN Resident Conference**
Weekly,Thurs., 12 p.m., Yavapai Rm.

**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz

**OB/GYN Surgical Pathology Conf.**
Weekly, Friday, 7:30 a.m., Yavapai Rm.

**Orthopedic X-Ray Conference**
Weekly, Friday, 7:30 a.m., Santa Cruz Rn

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 852
Contact: E. John Wickman, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 850 Contact: J. Burr Ross, M.D., Approved Category 1 credit.

**ical Conferences**
2nd & 3rd Tuesdays, 12 noon, 5th floor
torium.
**or Medical-Surgical Forum**
Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

North 16th St., Phoenix, AZ 85016.
tact: Leland L. Fairbanks, M.D.,
oved for Category 1 credit.
**atric Grand Rounds**
Tuesday, 7:30-8:30 a.m., Contact: D.
dall, M.D.
**cal Staff Teaching Conference, Rm. A.**
kly, Wednesday, 7:30-8:30 a.m.
**aryngology Grand Rounds**
Wednesday, 4-5 p.m., Conference Rm. A,
tact: N. Wendell Tood, M.D.
**ily Practice/Emergency Room Teaching**
**ference**
rsday, Weekly, 7:30-8:30 a.m., Conf. Rm.
ontact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

S. 7th Ave., Phoenix, AZ 85036. Contact:
rge Scharf, M.D. Approved for Category
edit.
**thly Medical Education Seminar**
Monday, 6:30 p.m., Kiva Conf. Rm.
**ical Conferences**
ekly Tuesday, 12:30 p.m., Kiva
ference Rm.
**chiatric Clinical Conference**
Friday, 11:30 a.m., B-Wing Conf. Rm.,
tact: Medical Staff Secretary
**or Board Conference**
kly Friday, 12 p.m., Kiva Conf. Rm.
tact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

East 4th Street, Scottsdale, AZ 85251.
tact: W. S. Williams, M.D., Approved for
egory 1 credit.
**ily Practice Conference**
Monday, 12:30 p.m., Doctors' Lounge
**ergency Medical Services Conference**
Monday, 12:30 p.m., Doctors' Lounge
**rology/Neurosurgery Conference**
Monday, 12:30 p.m., Doctors' Lounge
**C Conference**
Monday, 12:30 p.m., Doctors' Lounge
**iatrics Conference**
Monday, 12:30 p.m., Doctors' Lounge
**monary Conference**
Tuesday, 12:30 p.m., Doctors' Lounge
**diology Conference**
Tuesday, 12:30 p.m., Doctors' Lounge
**gery Conference**
Tuesday, 12:30 p.m., Doctors' Lounge
**ident Grand Rounds**
Tuesday, 12:30 p.m., Doctors' Lounge
**lical Subspecialties**
Tuesday, 12:30 p.m., Doctors' Lounge
**nephrology Conference**
Thursday, 12:30 p.m., Doctors' Lounge
**nor Conference**
Thursday, 12:30 p.m., Doctors' Lounge
**Med/Surg/Radiology Conference**
Friday, 12:30 p.m., Doctors' Lounge

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ, Contact: Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly, Monday, 12:15 p.m., Auditorium
**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditorium
**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium
**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium
**Cardiovascular-Thoracic Record Review**
3rd Wednesday, 12:15 p.m., Auditorium
**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips Auditorium
**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium
**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium
**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium
**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium

## ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703. Contact: see below.
**Monthly Specialty Conference — Dept. of Surgery**
1st Monday, 7:30 a.m., Century Rm. A., Contact: Med. Staff Office.
**Grand Rounds: Medical Surgical, Family Practice, Pathology, Radiology**
Weekly, Thursday
**Emergency Medicine Lectures**
Weekly, Thursday, 8 a.m., Century Rm. A.
**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm. A.
**Cardiology Conference**
Weekly. Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.
**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.
**Genetics Conference**
Weekly, Monday, 12:30 p.m., Pediatric Department.
**Pediatric Rounds**
Weekly, Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.
**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.
**ECG Conference**
Weekly, Tuesday, 12:30 p.m., Pediatric Department.
**Medical Grand Rounds**
Weekly, Wednesday, 8 a.m., 1st Floor Conf. Room.
**Visiting Professor Formal Presentation**
Weekly, Thursday, 8 a.m., PIMC
**Visiting Professor Informal Presentation**
Weekly, Thursday, 9:30 a.m., 1st floor Conf. Rm.
**Visiting Professor Formal Presentation**
Weekly, Thursday, 12:30 p.m., PIMC
**Nephrology Conference**
Weekly, Fridays, 12:30 p.m., Pediatric Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact: Wm. Moteforte.
**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact: Kim Sowards.
**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.
**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contact: S. Salmon, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
**Cardiology Conference**
Weekly, Monday, except last, 12 Noon, Contact: M. Maximov, M.D.
**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. Miller, M.D.
**Endocrinology Conference**
Last Monday, 12 p.m., Contact M. Parker, M.D.
**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Lohman, M.D.
**Surgical Dept. Conference**
2nd Monday, 12 Noon: Contact: C. Peter Crowe, Jr., M.D.
**Chest Conference**
1st Tuesday, 12 noon, Contact: William Nevin, M.D.
**Hematology Conference**
4th Tuesday, 12 Noon, Contact: M. Boxer, M.D.
**Infectious Disease Conference**
3rd Tuesday, 12 noon, Contact: B. Friedman, M.D.
**Nephrology Conference**
2nd Tuesday, 12 noon, Contact: Dr. Seltzer.
**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay Katz, M.D.
**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact: Dr. Lightner.
**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Foote, M.D.
**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.
**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, July, & Oct. Contact: C. Mangelsdorf, M.D.
**Medical Conference**
Weekly, Wednesday, 8:00 a.m., Contact: M. Fuchs, M.D.

**Neurology-Neurosurgery Conference**
Weekly, Wednesday, 12 noon, Contact: H. W. Buschsbaum, M.D.

**Dermatology Conference**
1st Thursday, 12 noon, Contact: R. Friedman, M.D.

**Neuroradiology Conference**
Weekly, Thursday, 5:00 p.m., Contact: N. Komar, M.D.

**Tumor Conference**
Weekly, Thursday, 12 noon, Contact: Cancer Committee.

**Pulmonary/Infectious Disease Case Conference**
2nd Thursday, 7:30 a.m., Contact: William Nevin, M.D.

**G—I Conference**
Weekly, Friday, 12 noon, Contact: George Kerrihard, M.D.

**Interhospital Nuclear Medicine Conference**
Weekly, Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.

**OB/GYN Conference**
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.

**OB/GYN Pathology Conference**
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

**Medical/Surgical GI Conference**
1st & 3rd Monday, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.

**Orthopedic Surgery Conference**
2nd Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.

**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 3134, Contact: Dr. Mertz & Dr. Lanard.

**Vascular Conference**
2nd Monday, 3 p.m., Rm. 3134, Contact: Dr. Clintora

**GI Grand Rounds**
Weekly, Tuesday, 1 p.m., Contact: Drs. Sanowski, Kozarek, after GI Grand Rounds, Rm. T-5.

**GI Radiology Clinical Correlation Conference**
1st and 3rd Tuesday, 12:00 noon, Rm. T-5, Contact: Dr. Sanowski.

**Pathology Conference**
2nd and 4th Tuesday, 12:00 noon, Rm. T-5, Contact: Dr. Sanowski.

**Housestaff Pulmonary Disease Teaching Conf.**
Weekly, Wed., 12:30-1:30 p.m., Rm. 4115, Contact: Dr. Rohwedder, Ext. 388.

**Cancer Symposium**
1st and 3rd Thursdays, 3 p.m., Rm. 3134, Contact: Dr. Byrne

**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habibzedeh

**Medical Surgical Chest Conference**
1st & 3rd Thursday, 12:30 p.m., Contact: Dr. Rohwedder.

**Medical Service Grand Rounds**
1st, 2nd, 3rd. & 5th Thursdays, 11 a.m., Rm. T-5, Contact: Dr. Zeller

**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

## PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.

**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

## TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.

**Medical Surgical Chest Conference**
Weekly, Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly, Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Conf.**
Weekly, Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly, Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.

**Radiology Conference**
1st Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Tuesday, 6:30 p.m.

**Pathology Conference**
4th Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for category 1 credit.

**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.

**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly, Thursday, 4-5 p.m., Room 5403.

**Anesthesiology Case Discussion**
Weekly, Wed., 7:00 a.m., AHSC, Dining Rm. C&D.

**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.

**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center.

**Cardiac Catheterization Conference**
Weekly, Friday, 4:00 p.m., Contact: Temkin.

**Cardiology Research Conference**
Weekly, Tuesday, 7:30 a.m., Contact: Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact Byrne-Quinn.

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5 Contact: Jerry Goldstone, M.D., Dept Surgery.

**Dermatology Conference**
4th Monday, 5:15 p.m., AHSC, Contact: D Friedman.

**Dermatology Rounds**
Weekly, Wed., 11:30 a.m., Contact: Dr. Ly

**Endocrinology Seminar**
Weekly, Thursday, 12-1 p.m., Contact: Johnson.

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contact: Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact Paplanus.

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AH Contact: Dr. T. Hunter.

**Head & Neck Tumor Management Conference**
Weekly, Wed., 4:00 p.m., Contact: Manning.

**Hematology-Oncology Clinical Confere**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6 Contact: S. Salmon, M.D., Dept. of Inte Medicine.

**Medical Grand Rounds**
Weekly, Wed., 12-1 p.m., AHSC, Contact J. Smith.

**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contacts: Hughes & Alcorn.

**Neuromuscular Disease Conference**
Weekly, Friday, 11:30 a.m., Contact: Stern.

**Neuropathology Case Review**
Weekly, Friday, 8:30 a.m., UAHSC, Dr Johnson.

**Neuroradiology Conference**
Weekly, Thurs., 5:00 p.m., Contact: Dr. Christenson.

**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Stern.

**Neurosciences Seminar**
Weekly, Tuesday & Friday, 7:30 a.m., AH Contact: Dr. C. Bamford.

**Nuclear Medicine**
Weekly, Thursday, 7:30 a.m., AH Radiology Conference Rm.

**OB/GYN Lectures**
Weekly, Friday, 1 p.m., AHSC, Contact: C.D.Christian.

**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: D Herschler.

**Ophthalmology Retina Fluoro. Conference**
Weekly, Thursday, 5 p.m., AHSC, Cont Dr. H. Cross.

**nopedic Rounds**
urday, 8:00 a.m., Contact: Dr. Peltier.

**Conference**
Monday, 4-5 p.m., AHSC Dining Rm.
, Contact: Drs. Hameroff & Cork.

**hology Conference**
kly, Monday, 12 noon, AHSC, Contact:
C.D. Christian.

**hology Seminar**
kly, Friday, 4:30-5:30 p.m., AHSC, Rm.
. Contact: Dr. P. Finley.

**son Pathologist Conference**
Monday, 7:30 p.m., AHSC, Contact: Dr. A.
raham.

**iatric Grand Rounds**
4th & 5th Tuesdays, 12 p.m., AHSC,
tact: Dr. H. Thompson.

**iatric Problem Patient Conference**
kly, Wed., 8:00 a.m., Contact Dr. Lillian
les-Cruz

**iatric Research Forum**
kly, Tuesday, 7:30 a.m., Contact: Dr.
kar Koldovsky

**iatric Specialty Conference**
kly, Friday, 8:00 a.m., Contact: Dr.
ilyn Heines & Jane Ruggill.

**Psychiatric Grand Rounds**
Weekly, Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium.

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital.

**Pulmonary Rounds**
Weekly, Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.

**Chest Radiology**
Weekly, Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly, Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly, Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly, Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich.

**Radiology-Rheumatology Conference**
Weekly, Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.

**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact: Dr. Nagle.

**Residents Noon Conference**
Weekly , Tuesday & Thursday, 12:00 noon, AHSC, Contact: Dr. A. Greensher.

**Resident's Conference**
Weekly, Wed., 5-6 p.m., Diag. Radiology Conf. Rm.

**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.

**Surgical Morbidity & Mortality Conference**
Weekly, Wed., 8:00 a.m., Contact: Dr. Wangensteen.

**Trauma Conference**
Thursday, 4:00-5:00 p.m.. AHSC, Rm. 5505.

**Toxicology Conference**
Weekly, Tuesday, 8:00 a.m., Contact: Dr. Keith Likes.

**Tucson Ultrasonography Group**
Weekly, Wed., 4:30 p.m., AHSC, Contact: Dr. I. Freundlich.

**General Urology Conference**
Weekly, Tue. & Thurs., 12:00 noon, AHSC & VA Hospital Contact: Dr. G.W. Drach.

**Vascular Surgery Conference**
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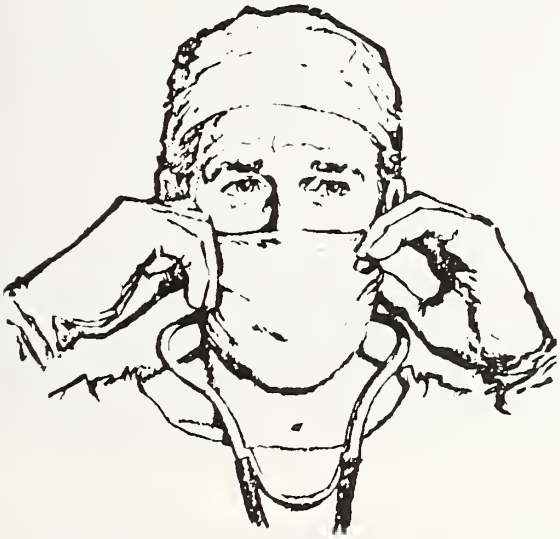

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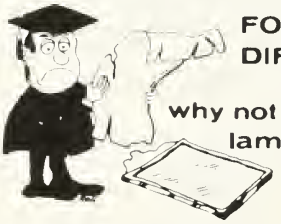

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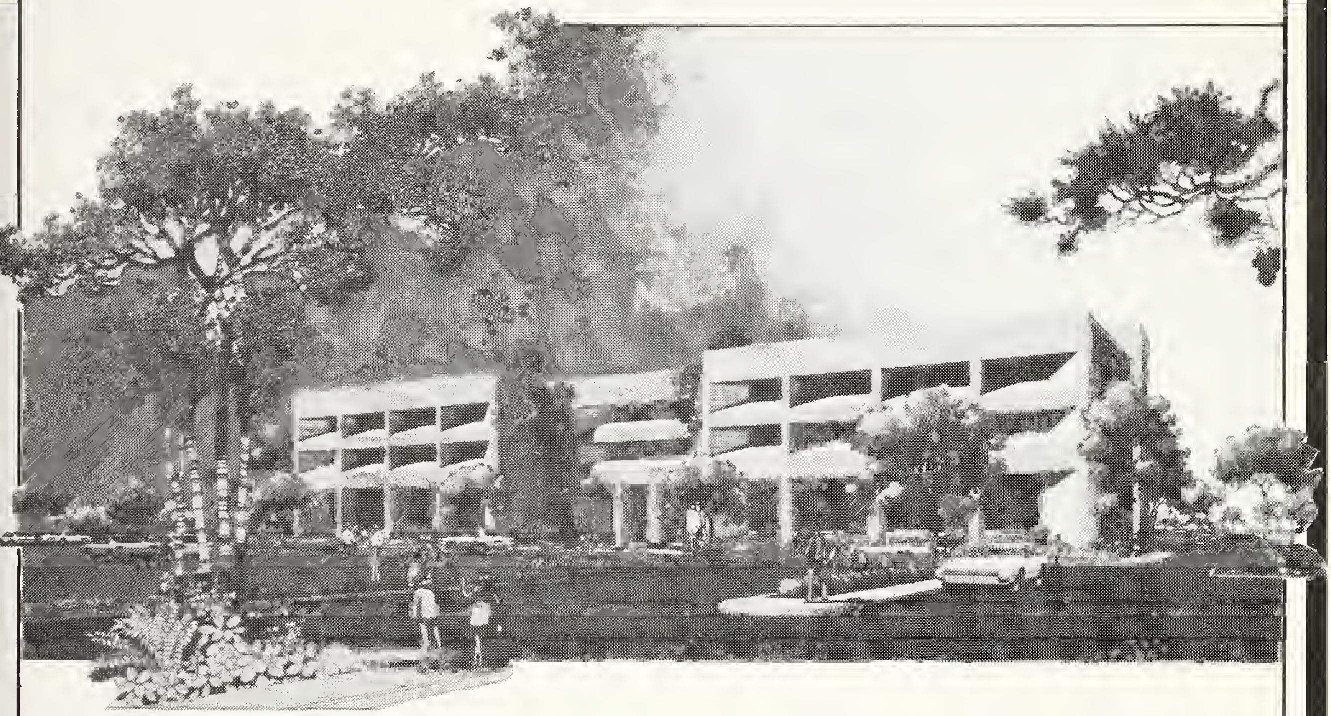

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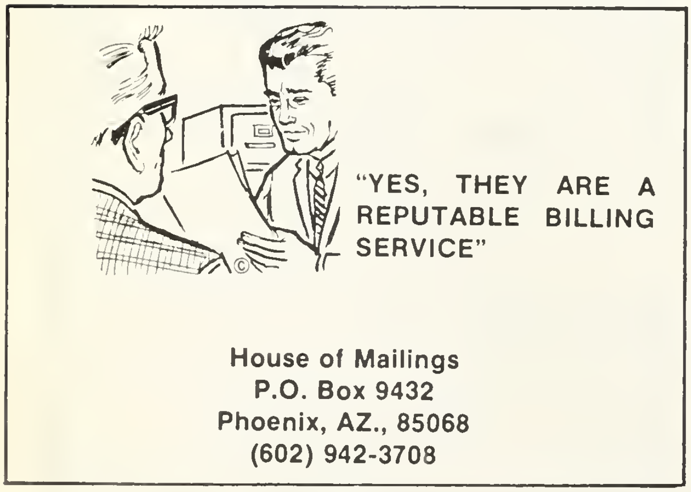
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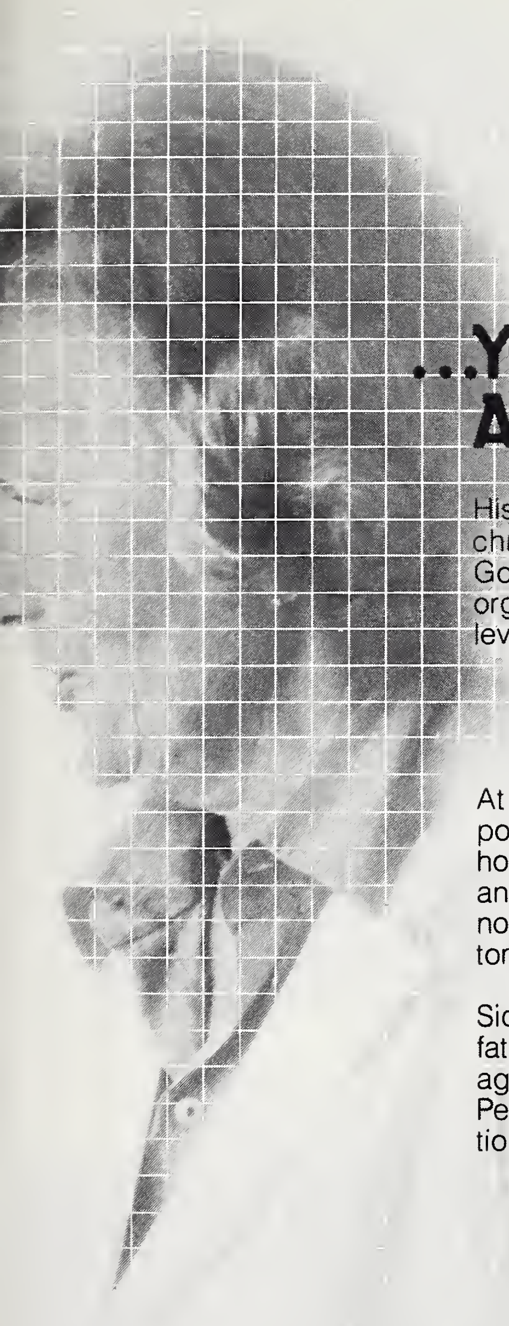

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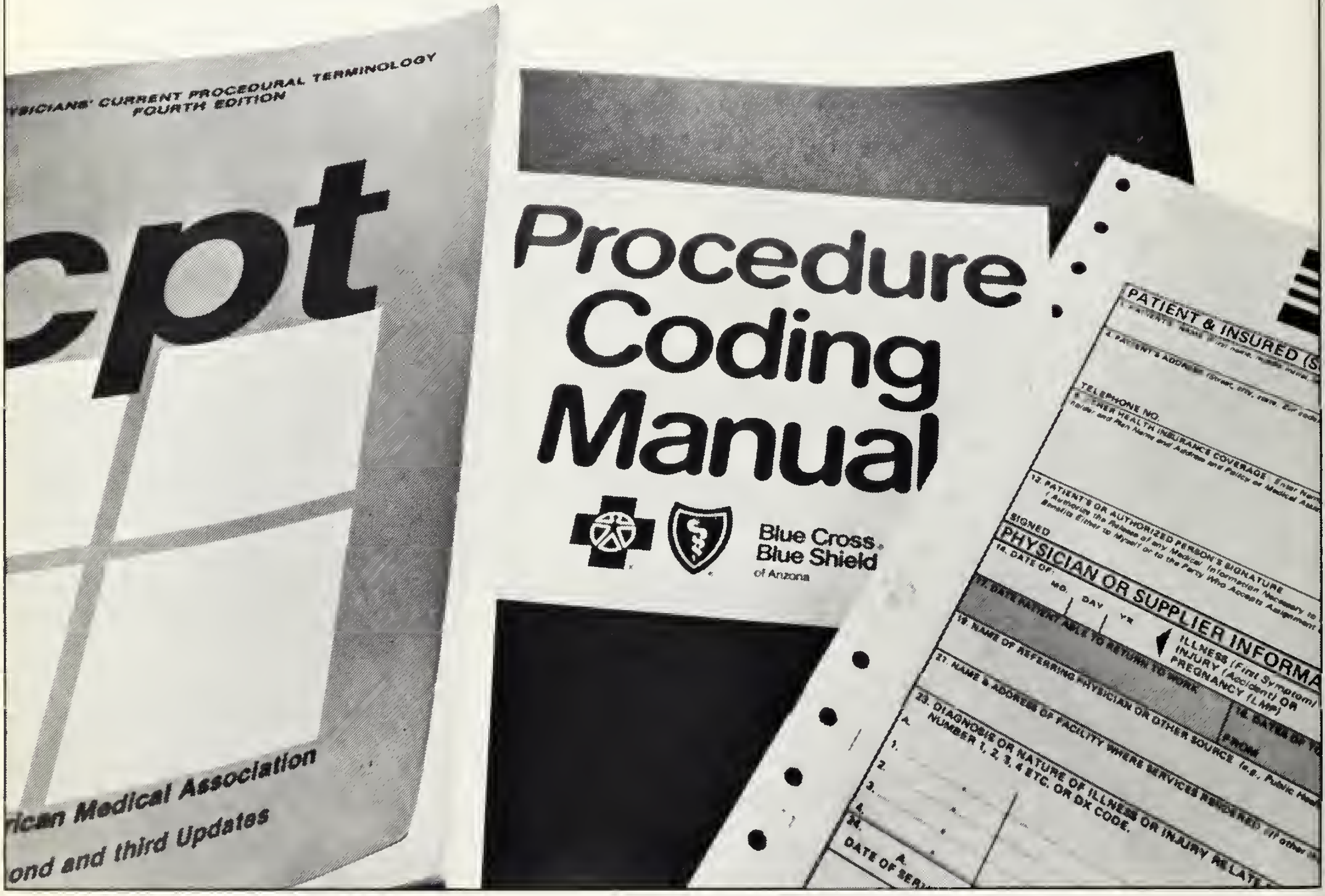

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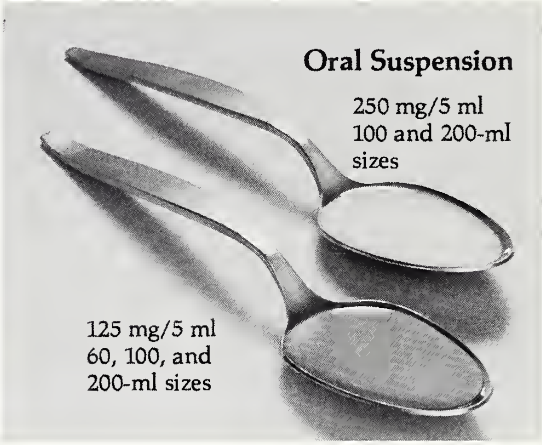

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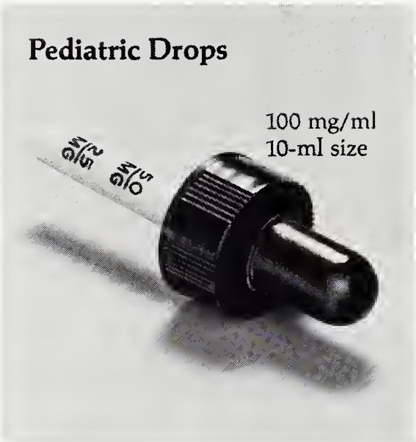

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**INDICATIONS AND USAGE:** These preparations are indicated for the treatment of infections caused by susceptible strains of designated microorganisms as follows: Respiratory Tract Infections (e.g., tonsillitis, pharyngitis, and lobar pneumonia) due to *S. pneumoniae* (formerly *D. pneumoniae)* and group A beta-hemolytic streptococci [penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever; Velosef (Cephradine, Squibb) is generally effective in the eradication of streptococci from the nasopharynx; substantial data establishing the efficacy of Velosef in the subsequent prevention of rheumatic fever are not available at present]; Otitis Media due to group A beta-hemolytic streptococci, *H. influenzae,* staphylococci, and *S. pneumoniae;* Skin and Skin Structures Infections due to staphylococci and beta-hemolytic streptococci; Urinary Tract Infections, including prostatitis, due to *E. coli, P. mirabilis, Klebsiella* species, and enterococci *(S. faecalis).*

Note: Culture and susceptibility tests should be initiated prior to and during therapy.

**CONTRAINDICATIONS:** In patients with known hypersensitivity to the cephalosporin group of antibiotics.

**WARNINGS;** *Use cephalosporin derivatives with great caution in penicillin-sensitive patients since there is clinical and laboratory evidence of partial cross-allergenicity of the two groups of antibiotics; there are instances of reactions to both drug classes (including anaphylaxis after parenteral use).* In persons who have demonstrated some form of allergy, particularly to drugs, use antibiotics, including cephradine, cautiously and only when absolutely necessary.

**Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use.** Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro.* Mild cases of colitis may respond to drug discontinuance alone. Manage moderate to severe cases with fluid, electrolyte and protein supplementation as indicated. Oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* when the colitis is severe or is not relieved by drug discontinuance; consider other causes of colitis.

**PRECAUTIONS: General:** Follow patients carefully to detect any side effects or unusual manifestations of drug idiosyncrasy. If a hypersensitivity reaction occurs, discontinue the drug and treat the patient with the usual agents, e.g., pressor amines, antihistamines, or corticosteroids. Administer cephradine with caution in the presence of markedly impaired renal function. In patients with known or suspected renal impairment, make careful clinical observation and appropriate laboratory studies prior to and during therapy as cephradine accumulates in the serum and tissues. See package insert for information on treatment of patients with impaired renal function. Prescribe cephradine with caution in individuals with a history of gastrointestinal disease, particularly colitis. Prolonged use of antibiotics may promote the overgrowth of nonsusceptible organisms. Take appropriate measures should superinfection occur during therapy. Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

**Information for Patients:** Caution diabetic patients that false results may occur with urine glucose tests (see PRECAUTIONS, Drug/Laboratory Test Interactions). Advise the patient to comply with the full course of therapy even if he begins to feel better and to take a missed dose as soon as possible. Tell the patient he may take this medication with food or milk since G.I. upset may be a factor in compliance with the dosage regimen. The patient should report current use of any medicines and should be cautioned not to take other medications unless the physician knows and approves of their use (see PRECAUTIONS, Drug Interactions).

**Laboratory Tests:** In patients with known or suspected renal impairment, it is advisable to monitor renal function.

**Drug Interactions:** When administered concurrently, the following drugs may interact with cephalosporins:

*Other antibacterial agents* — Bacteriostats may interfere with the bactericidal action of cephalosporins in acute infection; other agents, e.g., aminoglycosides, colistin, polymyxins, vancomycin, may increase the possibility of nephrotoxicity.

*Diuretics* (potent "loop diuretics," e.g., furosemide and ethacrynic acid) — Enhanced possibility for renal toxicity.

*Probenecid* — Increased and prolonged blood levels of cephalosporins, resulting in increased risk of nephrotoxicity.

**Drug/Laboratory Test Interactions:** After treatment with cephradine, a false-positive reaction for glucose in the urine may occur with Benedict's solution, Fehling's solution, or with Clinitest® tablets, but not with enzyme-based tests such as Clinistix® and Tes-Tape®. False-positive Coombs test results may occur in newborns whose mothers received a cephalosporin prior to delivery. Cephalosporins have been reported to cause false-positive reactions in tests for urinary proteins which use sulfosalicylic acid, false elevations of urinary 17-ketosteroid values, and prolonged prothrombin times.

**Carcinogenesis, Mutagenesis:** Long-term studies in animals have not been performed to evaluate carcinogenic potential or mutagenesis.

**Pregnancy: Teratogenic Effects/Impairment of Fertility — Category B:** Reproduction studies have been performed in mice and rats at doses up to 4 times the maximum indicated human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cephradine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

**Nursing Mothers:** Since cephradine is excreted in breast milk during lactation, exercise caution when administering cephradine to a nursing woman.

**Pediatric Use:** Adequate information is unavailable on the efficacy of b.i.d. regimens in children under nine months of age.

**ADVERSE REACTIONS:** Untoward reactions are limited essentially to G.I. disturbances and, on occasion, to hypersensitivity phenomena. The latter are more likely to occur in persons who have previously demonstrated hypersensitivity and those with a history of allergy, asthma, hay fever, or urticaria.

***(continued on next page)***

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*(continued)*

The following adverse reactions have been reported following use of cephradine: G.I. — Symptoms of pseudomembranous colitis can appear during antibiotic therapy; nausea and vomiting have been reported rarely. Skin and Hypersensitivity Reactions — mild urticaria or skin rash, pruritus, joint pains. Blood — mild transient eosinophilia, leukopenia and neutropenia. Liver — transient mild rise of SGOT, SGPT, and total bilirubin with no evidence of hepatocellular damage. Renal — transitory rises in BUN have been observed in some patients treated with cephalosporins; their frequency increases in patients over 50 years old. In adults for whom serum creatinine determinations were performed, the rise in BUN was not accompanied by a rise in serum creatinine. Others — dizziness, tightness in the chest, and candidal vaginitis.

**DOSAGE:** Adults — For respiratory tract infections (other than lobar pneumonia) and skin and skin structures infections: 250 mg q. 6 h or 500 mg q. 12 h. For lobar pneumonia: 500 mg q. 6 h or 1 g q. 12 h. For uncomplicated urinary tract infections: 500 mg q. 12 h; for more serious UTI, including prostatitis, 500 mg q. 6 h or 1 g q. 12 h. Severe or chronic infections may require larger doses (up to 1 g q. 6 h.).

Children over 9 months of age — 25 to 50 mg/kg/day in equally divided doses q. 6 or 12 h. For otitis media due to *H. influenzae:* 75 to 100 mg/kg/day in equally divided doses q. 6 or 12 h but not to exceed 4 g/day. Dosage for children should not exceed dosage recommended for adults. There are no adequate data available on efficacy of b.i.d. regimens in children under 9 months of age.

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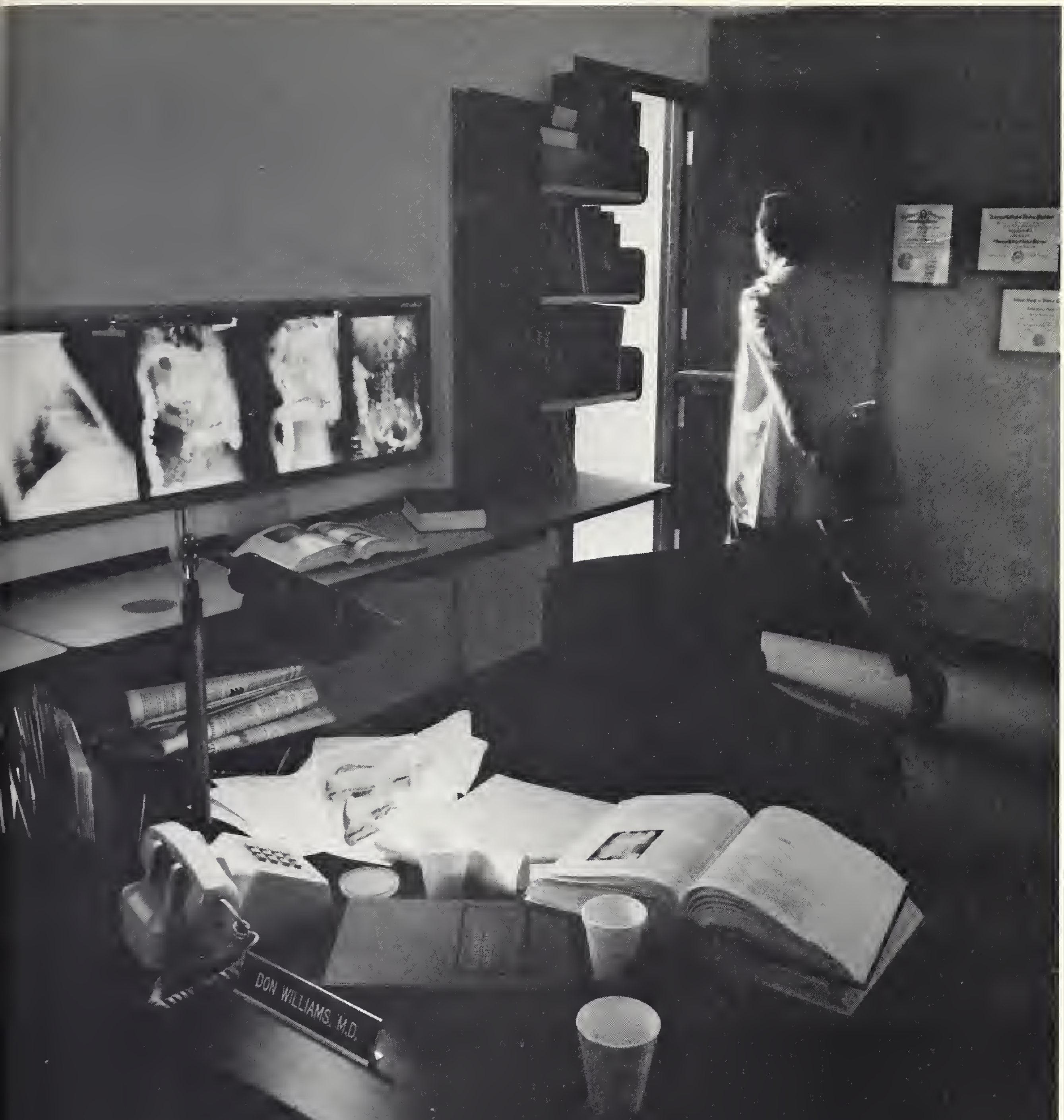

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Cardiology

# Right Ventricular Infarction

Thomas Paul, M.D.
Kenneth B. Desser, M.D.
Alberto Benchimol, M.D.

Editor:
Kenneth B. Desser, M.D.

The clinical spectrum of right ventricular infarction ranges from that of little or no hemodynamic compromise to one of profound hypotension and cardiogenic shock associated with variable degrees of atrioventricular conduction disturbance. The importance of appropriate diagnosis and management of this entity resides in its generally favorable prognosis as compared to similar derangement caused by left ventricular infarction.

The original description of hemodynamic significant right ventricular infarction being diagnc ante mortem was by Cohn[1] in 1974, at a time when n clinicians considered infarction of the right ventr little more than a pathologic curiosity. Review of sev autopsy reports shows the incidence of right ventric infarction to range from 5% to 43% with a m incidence of 19%.[2] It appears that right ventric infarction is uniformly associated with inferoposte infarction of the left ventricle and rarely occurs alon with anteroseptal infarction.[3,4] Data obtained f radionuclide infarct imaging studies suggests that even greater percentage (37.5%) of patients v inferoposterior infarction exhibit evidence of ri ventricular involvement.[5] Infarction of the ri ventricle, however, usually results in hemodyna dysfunction in only three percent to eight percen affected patients.[6]

Significant necrosis of the right ventricle can suspected on the basis of electrocardiographic crit for inferoposterior infarction of the left ventricle transient ST segment elevation in lead V1.[7] Clinical cl suggesting the diagnosis include associated jug venous distention, hepatic tenderness, absence pulmonary congestion and evidence of low carc output. Other bedside indicators that may be of va are right sided third and fourth heart sounds, inspirat neck vein prominence (Kussmaul's sign) and pul alternans.[2]

Noninvasive studies which may help confirm t diagnosis include technetium radionuclide infa imaging with attention to tracer avidity in the area of t right ventricle, gated blood pool (MUGA) stud demonstrating right ventricular wall motion abnorm ities and echocardiography showing acute right ve tricular dilation and paradoxical septal motion. Absolu determination of significant right ventricular infarcti is provided by the placement of a Swan-Ganz cathet Demonstration of an elevated mean right atrial pressu which is greater than the pulmonary "wedge" pressu confirms the diagnosis. The character of the pressu curves on advancing the catheter from the right atriu through to the pulmonary artery may be confusing d to their striking similarity and thus fluorosco confirmation of catheter position is necessary in t presence of a right ventricular infarction. The r change in mean pressure between the right atrium a pulmonary artery may be no more than 2 mmH Conditions which can minic or obscure the diagnosis right ventricular infarction include pericardial constri tion, pulmonary embolism, tricuspid regurgitatio chronic obstructive pulmonary disease, cardi tamponade and cardiomyopathy.

The therapeutic goal in significant right ventricu infarction is reversal of systemic hypotension which largely dependent on passive flow from the right hea Mechanisms by which right ventricular output may enhanced include: 1) increasing the right ventricu

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From: The Institute for Cardiovascular Diseases, Good Samaritan Medical Center, 1111 East McDowell Road, Phoenix, Arizona 85006. Supported in part by the E. Nichols Memorial Fund, and The Institute for Cardiovascular Diseases, Inc. Reprint request to Alberto Benchimol, M.D., Good Samaritan Medical Center, P. O. Box 2989, Phoenix, Arizona 85062.

diastolic volume and thus the Starling forces
ating in the remaining functional myofibrils,
ıgmentation of right atrial contraction, and 3) in-
sing the right atrial to left atrial pressure gradient
nenting passive flow. Fluids in either crystalloid or
oid form accomplish all of the above mentioned
s and are limited in their effectiveness only by the
ee of left ventricular dysfunction. Thus, volume
ansion is usually titrated against pulmonary "wedge"
sure and should the latter rise precipitously,
native modes of therapy must be used. Dopamine,
roterenol and dobutamine have all been advocated
wing the failure of volume expansion, as well as
um nitroprusside and intraaortic balloon counter-
ation. The benefit of these modalities and their
ion to circulatory support depends on the extent of
age to the left ventricle. Rarely, there will be
ciated right ventricular papillary muscle infarction
valvular incompetence which is responsive to
ical replacement of the tricuspid valve.[8] Temporary
t atrial pacing has also been suggested as being
acious for right heart dysfunction.[9]

nly a small percentage of patients with right
ricular infarction will require specific therapy for a
output state. The judicious administration of
venous fluids with monitoring of the pulmonary
ge pressure will in most cases reverse systemic
otension. The proper diagnosis and management in
subgroup of patients may be life saving and lend a
e favorable prognosis in the setting of acute
cardial infarction.

**nowledgement**
e wish to acknowledge the technical assistance of
ole Crevier and Jennie Goff.

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# Bilateral Adrenal Hemorrhage During Anticoagulant Therapy

Alan O. Marcus, M.D.
Daniel S. Duick, M.D.
Dennis Little, M.D.
Edward B. Waldmann, M.D.

Editor:
Stephen E. Dippe, M.D.

Spontaneous bilateral adrenal hemorrhage during anticoagulant therapy is infrequently diagnosed and the catastrophic course is usually recognized only at necropsy. Physicians who recognize this complication can rapidly test adrenal function, administer glucocorticoids, evaluate adrenal anatomy with a CAT Scan, and avert the sequelae of acute adrenal insufficiency. In our report, we describe signs, symptoms, and laboratory findings which will aid the clinician in diagnosing adrenal insufficiency associated with anticoagulant therapy.

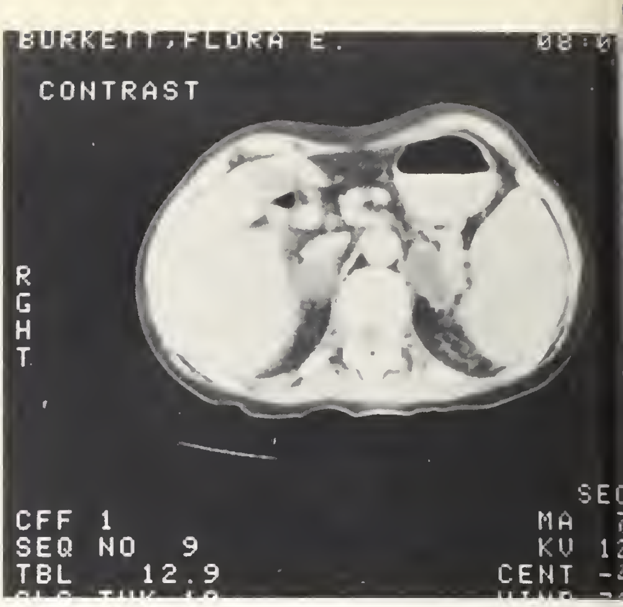
---

From: St. Joseph's Hospital and Medical Center, Department of Medicine, 350 West Thomas Road, Phoenix, Arizona 85013.

## Case Report

A 69-year-old white female with a past medical history of polycythemia vera was admitted on March 27, 1981 to a hospital for treatment of pain and swelling of her left lower extremity of five days duration. Physical findings revealed normal vital signs with abnormal findings limited to pitting edema and dependent rubor of the left leg and foot. A clinical diagnosis of left femoral vein thrombosis was verified by venography and anticoagulant therapy was initiated with a continuous IV infusion of aqueous Heparin, 1000 units per hour. She was kept at strict bed rest and the swelling and pain in the leg abated over the next three days. On hospital day five the patient developed nausea and vomiting. She was ambulated on day six and begun on oral Warfarin therapy. On the tenth hospital day, April 6, the patient complained of nausea and epigastric and chest discomfort. Serum electrolytes determined at this time were sodium, 116 mEq/liter; potassium, 5.2 mEq/liter; chloride, 85 mEq/liter; and carbon dioxide, 23 mEq/liter. The same day, therapy was initiated with 1000 cc of normal saline. Repeat serum electrolyte determinations after completion of the infusion were sodium, 126 mEq/liter; potassium, 4.4 mEq/liter; chloride 98 mEq/liter; carbon dioxide, 22 mEq/liter. Arterial blood gases were obtained following this infusion and were normal at this time. A diagnosis of syndrome of inappropriate antidiuretic hormone secretion (SIADH) secondary to a possible underlying malignancy was considered on April 7 (day 11) and for the next 72 hours, the patient was fluid restricted. On April 10 (hospital day 14) her laboratory studies revealed a urine osmolality of 716 mosm/kg. The serum electrolytes were sodium, 118 mEq/liter; potassium, 5.2 mEq/liter; chloride, 91 mEq/liter; carbon dioxide, 26 mEq/liter. A prothrombin determination was performed on April 9 (hospital day 13) and was 60 seconds (control 12.6 seconds). This was treated with Aquamephyton, 10 mg intramuscularly, with the subsequent return of her prothrombin time to a therapeutic level of 26.5 on April 10. The patient was then placed on oral Coumadin, 2.5 mg daily. Since the onset of the patient's abdominal distress (April 6), she continued to experience intermittent nausea, anorexia, and weakness on a daily basis but was discharged on April 11.

The patient was readmitted to the same hospital on the following day (April 12) complaining of weakness and watery diarrhea. A left pleural effusion was present on her readmission chest x-ray. A thoracentesis revealed a grossly bloody transudate which was both direct smear and culture negative. A urine culture on admission grew E. Coli with a greater than 100,000 colony count and this was treated with gentamycin and ampicillin. After 14 days of antibiotic therapy with gentamycin and ampicillin the patient developed acute renal failure with the BUN rising to 54 mg/dl and the serum creatinine rising to 7.9 mg/dl.



Figure

On May 7, the patient was transferred to St. Josep
Hospital and Medical Center. She complained
persistent nausea, anorexia, generalized weakness,
a 23 pound weight loss during the preceding five we
Physical examination revealed temperature 36.8, p
rate of 94 regular, respiratory rate of 16 and a bl
pressure of 140/90. No mention of orthostatic hy
tension was made. The patient appeared chronicall
with findings limited to tenderness during palpatio
the epigastrum. There was no rebound or guarding
the remainder of the abdominal and phys
examination was within normal limits.

Initial laboratory studies revealed a serum sodiu
137 mEq/l; potassium, 4.3 mEq/l; chloride 106mE
carbon dioxide, 20 mEq/l; BUN 54 mg/dl;
creatinine, 7.9 mg/dl. Random serum and u
osmolality were 289 milliosmols/liter and
milliosmols/liter, respectively. The hemoglobin was
g/dl; hematocrit, 40.3%; white blood count 13,000 wi
normal differential, and the platelets were adequate
the admission complete blood count. The patie
prothrombin time while taking coumadin 2.5 mg d
was 23 seconds with a normal range of 8.9 to 11 seco
Urinalysis revealed a specific gravity of 1.011; pH 5.0
proteinuria; 3 to 6 RBC's/high powered field; 15 t
WBC's/high powered field; and 1 to 3 casts/
powered field. Urine culture was negative. Se
amylase was 149 units/liter, (normal range 5 to
units/liter) and serum lipase was 14 units/liter, (nor
range 4 to 24 units/dl). A Cortrosyn Stimulation Test
performed on May 15 by IV infusion at 40 cc/hour
IMED of 50 mg of Cortrosyn® in 1000 cc of normal sal
A base line serum cortisol level of 8.4 μg/dl prio
infusion and values of 7.8 μg/dl at a three hour inte
4.9 μg/dl at six hours and 5.4 μg/dl after 12 hour
infusion. After completion of the infusion the se
cortisol level was 5.4 μg/dl. A 24 hour urine speci
was collected during the infusion of the Cortrosyn.
results of its analysis showed a free urine cortisol

/24 hours (normal range 20 to 90 mcg/24 hours), a e creatinine of 0.9 gm/24 hours (normal female 0.9 7 gm/ gm/24 hours). A CAT scan of the abdomen aled bilateral adrenal hemorrhage (Figure 1). apy was initiated with Solu-cortef, 50 mg IV, every t hours for one day and then 25 mg IV every eight s for two days. Subsequently, the patient was ched to oral Prednisone, 5 mg every 12 hours for two followed by Prednisone, 7.5 mg every morning. At ame time that oral Prednisone therapy was initiated, apy with Florinef, 0.1 mg every day was also begun. patient showed marked clinical improvement in 48 hours after initiating parenteral glucocoticoid apy. Objectively, the BP increased from 109/68 on day prior to initiation of treatment to 122/82 wing 24 hours of therapy, her strength increased her appetite returned. Subjectively, the patient d a marked increase in well being. Her serum BUN creatinine decreased to 61 mg/dl and 4.1 mg/dl, ectively over a period of 17 days. By May 24, 1981 the m electrolytes were normal and the patient was harged on May 25, 1981. She was maintained on nisone, 7.5 mg and Florinef, 0.1 mg po daily.

### ussion

ne patient manifested many clinical and laboratory ures that have been previously reported in coagulated patients who experienced adrenal orrhage and evolved adrenal insufficiency.[2] This ent had symptoms of nausea, upper abdominal pain, pleuritic chest pain while on heparin and coumadin apy at the presumed time of her adrenal orrhage. Also, her prothrombin time was markedly ated above the therapeutic range. During this od, her serum sodium was noted to be low and her m potassium was high. As pointed out in previous rts,[3] a ratio of sodium/potassium less than 30 should one to consider adrenal insufficiency. In this ent, the ratio was 22. Also noted in previous lished reports are findings of lowered serum ride levels.[4]

ne presence of renal failure in our patient with its ct on serum electrolytes points out the importance iewing the electrolyte abnormalities in relationship ossible coexistent disease processes. Renal failure, as nis patient, is associated with an increased serum n gap, and decreased serum chloride concentration an increased serum potassium concentration. Thus, rcurrent renal failure as in our patient, invalidates possible use of the sodium/potassium ratio for the nosis of adrenal insufficiency. Patients who are g treated with anticoagulant therapy and develop otoms suggestive of adrenal insufficiency such as sea, vomiting, abdominal pain, weakness, or rexia should be evaluated for adrenal insufficiency ecially if they are at an increased risk of adrenal orrhage by having prothrombin times outside the apeutic range.[5]

nis patient also developed persistent anorexia with a weight loss of 23 pounds and generalized weakness. Additional signs of adrenal insufficiency which were not present in this patient but which have been previously reported include orthostatic hypotension, an elevated total eosinophil count, fever, and a disturbed sensorium.[6]

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CAT scanning, if available, will demonstrate the anatomical changes of hemorrhage into the adrenal glands. The destruction of the normal anatomy with the appearance of diffusely swollen glands accompanied by a change in their density are the findings noted to be present in this patient.

The CAT findings of bilaterally enlarged adrenals with low density centers in acute hypoadrenalism has previously been noted with acute adrenal hemorrhage in a report of 63 patients with suspected adrenal disease who were evaluated by CAT scanning.[9]

After diagnosis has been made appropriate glucocoticoid and mineralocoticoid therapy can be initiated and this frequently unrecognized and fatal condition can be treated successfully.

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*Oncology*

# Chemotherapy in the Management of Small Cell Lung Cancer

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Editors:
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Lung cancer is a heterogeneous group of malignancies having in common the lung parenchyma or its supporting structure as the site of origin. These diseases pose an enormous health problem with an expected 122,000 new cases in this country in 1981 and 105,000 deaths. For the purpose of a treatment discussion, primary lung cancers can be currently separated into two categories: 1) small cell lung cancer and 2) non-small cell lung cancer. Twenty to twenty-five percent of all lung cancers are small cell and it is this group which is the subject of this discussion.

Traditional therapy for all types of lung cancer has been surgery. However, many years ago it became apparent that long-term survivals after surgical resections of small cell lung cancer were almost unheard of. While, overall, the results of surgery in small cell lung cancer differed dramatically from surgical results in non-small cell lung cancer, long-term survivals of resected lung cancer are not high.[1,2] Additionally, a search for clinical variables, in an attempt to delineate groups of patients with small cell lung cancer who would have improved survival expectations, was unsuccessful.[3] With traditional therapy, age, sex, race, location of primary, radiographic appearance of the primary, pleural effusion, mediastinal invasion, and the presence disease outside the hemithorax and mediastinum do influence the dismal survival of this disease. These f reflect the now accepted recognition of the syste nature of this disease at diagnosis and hence also exp the search which has gone on for effective syste therapy—chemotherapy—for patients with small lung cancer.

A comment should be made here regarding the us radiotherapy as a single modality in small cell l cancer. Radiotherapy is seldom used alone as the in therapy of this disease. Untreated patients with small lung cancer confined to a single radiation port hav median survival of three months. Radiotherapy u alone in these patients does extend the median surv of these patients to six months, but for patients v extensive disease, which accounts for two-thirds patients, radiotherapy does not increase survival. S patients treated with radiotherapy alone will deve recurrent or progressive disease in sites outside radiation port, again presumably due to the presenc micrometastatic disease.[4] However, as will be discuss radiotherapy does have a role in the managemen small cell lung cancer when combined with ot treatment modalities.

In 1969 the VA Lung Study Group reported the res of a prospective randomized study in which patie

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h extensive (disease not encompassable into one
liation port) small cell lung cancer received either no
erapy or cyclophosphamide as a single agent. Median
vival was increased from six to seventeen weeks.[5] The
cond historically important study was published in
72 from Toronto, where it was demonstrated that the
dition of cyclophosphamide to radiotherapy (when
mpared to the same radiotherapy alone) significantly
reased survival in patients with small cell lung
ncer.[6]

At about the same time, it was recognized that many
ticancer drugs have activity in small cell lung cancer.
odeling study design on the success of combination
emotherapy in lymphoma and leukemia, multi-drug
gimens for the treatment of small cell lung carcinoma
ve been conducted. In evaluating these results it is
portant to recognize that in all tumors successfully
ated with chemotherapy to potential cure, it is the
mplete response rate that correlates most highly with
g-term survival.

n the mid-1970's, the use of combination
emotherapy with or without radiotherapy clearly
monstrated that for small cell lung cancer as a whole:
the overall response rates to chemotherapy could be
reased to 80%; b) the complete response rate could
increased to 30%; c) median survival could be
reased to about one year; and d) the percentage of
ients alive at one year hence was approximately 50%.[6]

special importance are the results in patients with
ited disease. In these patients, the complete response
e to combination chemotherapy with or without
liotherapy is close to three out of four and 16% of
se patients remain free of disease at two years.[7] This
ongly suggests that patients with limited small cell
g cancer, a disease previously almost universally fatal,
w have a one in six chance of probable cure with the
w, aggressive combination chemotherapy regimens.

There is no clearly established best combination
emotherapy regimen in small cell lung cancer.
wever, the combination of Vincristine, Adriamycin,
d Cyclophosphamide (CAV) gives consistent and
producible results.[8] The most commonly used
ernative to CAV (important for patients with pre-
sting heart disease for whom Adriamycin may be
ntraindicated) is a combination of CCNU, Metho-
xate and Cyclophosphamide (CMC).[9] At the
iversity of Arizona we have studied the combination
CAV plus VP-16 together with high dose adjuvant
diation to the primary site and prophylactic whole
ain radiation.[10] The results of this trial are very
couraging.

As noted, while not effective as a single agent
dality, radiotherapy does appear to have a role in this
ease. The brain is a sanctuary from most chemo-
erapeutic drugs and brain metastases are common in small cell lung cancer. It is clearly established that prophylactic brain radiation when incorporated into combination chemotherapy regimens can decrease the incidence of brain mets.[11] Additionally, when analyzed for sites of relapse after combination chemotherapy the primary lung lesion is a frequent site of relapse. Recurrences at this site can be reduced by high dose radiation to the primary site when incorporated into combined modality treatment regimens.[12,13] As noted, such a combined modality approach has been taken at the University of Arizona.[10]

In summary, the prognosis of patients with small cell lung cancer has changed from the poorest of all lung cancers to a much more encouraging outlook, including even some probability of cure. Small cell lung cancer must be regarded as a systemic disease and, hence, systemic therapy is mandatory if one hopes to increase survival. Hope for continued improvement in the treatment of these patients will continue to come from clinical and laboratory research studies. The referral of patients to centers conducting research protocols will further the goal of better treatment in the future.

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Psychiatric
Disorders

# Child Psychiatry, Accreditation, and the Residential Treatment Facility

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Editor:
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**Abstract**

A clear definition of the role of psychiatrist is essential for the assessment of cost effectiveness. The accreditation standards of the Joint Commission do specify the role of the physician in approved treatment centers. However, most of the child residential facilities in Arizona view JCAH accreditation as too difficult and too expensive to attain. Nonetheless, most of the centers polled do employ psychiatrists and value their services. The capacity of the psychiatrist is variously determined by the program philosophy, the availability of funding, and the needs of staff and children. Psychiatry has defined a position within the medical profession—a health care model, more clearly than within the residential treatment center—a social service model.

There is virtually nothing written about the changing role of the child psychiarist in residential treatment facilities; however, a general trend, evident in the community mental health center, is for psychiatrists to become less involved and to exert less influence in the program while other mental health professionals
increasingly active.[1] Langsley[2] associates this with t
philosophical shift from a health care model to a soc
service paradigm. The emphasis is on "talk therapy"
maladjusted clients rather than psychotherapy
seriously ill patients. In the mental health center, t
position of the psychiatrist can be compartmentalize
he or she may sign prescriptions while treatme
planning and therapy are performed by oth
disciplines. Harris[3] notes a similar phenomenon in t
inefficient and confused role of the child psychiatrist
an emergency child care unit where the physician wou
often interview the child, without contact with oth
family members or staff. The role of the psychiatrist i
multidisciplinary setting is poorly defined in tha
number of articles on child treatment units[1,4-6] failed
identify any special skills which a child psychiatrist mig
offer that other child care workers could not. R
definition is certainly important for the determination
cost effective service. There is a clearer definition of t
role of psychiatrist within the medical profession:
article by Forrest,[7] entitled "Who a Psychiatrist I
favorably compares the psychiatrist with the no
psychiatric physician on the basis of greater interviewi
skill and experience with the psychiatric populati
Pardes[8] presents a similar theme by reviewing t

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eral physician's relatively low mental health care ntification rate and high patient morbidity. The role he psychiatrist within the medical profession is well ned compared to the psychiatrist's role in a tidisciplinary setting.

lany residential treatment centers are in a financial d. In Arizona the declining economy, absence of a dicaid program, and a statewide freeze on public ds for residential treatment have all contributed to demise of at least 4 of 25 child treatment facilities hin the past year. The survivors are struggling; they consider several alternatives: to disband, to tighten r belts, or to seek increased third party payment ough JCAH accreditation. The last choice commonly ails expensive alterations in the physical plant and the ployment of a child psychiatrist as medical director. It uld occasion a radical shift in philosophy for grams which have operated along behavioral, group cess, confrontation, communication skills, effective- s training, and/or stress management lines. If such a gram were to incorporate a child psychiatrist, this ld provoke either an identity crisis with a shift toward medical model or an effort to minimize or npartmentalize the role of the psychiatrist. The ey reported below was an attempt to define udes toward JCAH accreditation and the psychiatrist xpressed by the directors of child and adolescent dential treatment centers in the state of Arizona. Our ulation was complete prior to the announcement CHAMPUS would cease paying for children nitted to residential treatment programs after ober 1, 1981. As many of the children in the redited facilities are placed there through AMPUS, this change is expected to further decrease attractiveness of JCAH accreditation.

### idential Treatment Facilities

Arizona the majority of youngsters identified as derately or seriously disturbed are either in dential treatment or a combination of foster care and cialized school or day care programs. In part, this is to the absence of a treatment unit for children at the e Hospital. The state facility does provide 16 beds for lescents; the average length of hospitalization is four nths.

uestionnaires were mailed to all 25 child residential tment facilities within the state. Four of these units closed by the time the results were tabulated. There e seventeen responses from 21 surviving programs, a urn rate of 80%. Within the sample, five of the lities accepted boys only; one accepted only girls ten were coed. In all, there were 807 boys and 167 s in treatment. The majority of the residents were ween 12 and 18 years of age, with most programs ninating treatment at age 18. Only one facility epted children below age five and only one accepted ths up to age 21.

### H Accreditation

nly two facilities were JCAH accredited; one of these was considering dropping the accreditation because the requirements seemed too costly, difficult, and not entirely relevant to the care of children. One program has been previously accredited but "found it of no benefit" because accreditation "does not address the needs of residential treatment." In spite of this, eight facilities expressed interest in becoming accredited and one has submitted an application. Reasons given for not applying for accreditation were: too costly (11 responses), prefer a different treatment model (9 responses), too difficult (4 responses), useless (1 response), and extensive renovation required (1 response).

### Psychiatric Services

Twelve of the sixteen facilities employed a child psychiatrist on a regular basis and three others used or had used psychiatrist services on a less regular basis. Three facilities employed a general psychiatrist for outpatient services and one facility retained a Ph.D. psychologist eight hours per week. Those which employed psychiatrists did so for an average of six hours per week; however, one facility contributed almost half the total number of hours of psychiatric services. When this facility was excluded, the remainder hired psychiatrists for an average of three hours per week. Expense was the most frequent reason given for not initiating or increasing psychiatric services.

As a group, these residential treatment facilities expected the psychiatrist to consult with staff, evaluate problematic youngsters, prescribe medication, attend staffing, provide inservice training, and (less often) perform therapy, mental status examinations and administration. However, five programs limited the role of the psychiatrist to one or two of the above functions and one did not respond to the question other than by listing the name of the psychiatrist involved. Cost was the reason why one facility restricted the role of the physician and with two others it seemed related to a difference in treatment philosophy.

A sufficient number of child psychiatrists seem to be available for consultation in that no program checked unavailability as a reason for not hiring; however, one respondent indicated that none with sufficient expertise was available. Although the checklist invited negative comments, no respondent classified psychiatrists as "inept or too disturbed themselves" or as "not relevant to our program." However, one director stated: "I have personal experience with firing two psychiatrists who were inept. I can't believe they graduated college let alone medical school." In spite of this experience, the director retained a consultant and sought increased coverage. Most comments were highly positive, such as "He (psychiatrist) is excellent! We value psychiatric input and would seek it more if funding could be obtained." The most frequent negative comment referred to the inadequacy of public funds which limits or precludes psychiatric consultation. One individual stated: "The way our contracts with the state are set up, we are not paid for staff psychiatry—if you can—get the state (D.E.S.) to acknowledge the need."

Overall, four of the 17 facilities employ psychiatrists sporadically or not at all. Five of the remaining 13 sharply limit the psychiatrist's role, seemingly for financial or philosophical reasons. Although interest in accreditation remains high, it is viewed as costly, difficult to implement and, occasionally, as not relevant to the needs of the child. Accreditation by itself does not necessarily mean more than lip service to the psychiatrist's participation: one of the two currently accredited facilities retains a psychiatrist for "approximately" two hours per week; the director comments: "our real needs are having the mental status done and an occasional consultation on a particularly difficult case."

## Discussion

The accreditation process makes little sense to treatment programs caught in the fiscal crunch. In our sample, the only facility likely to retain accreditation happens to be nationally noted for its survival training and confrontation techniques; most of the youths in that program have been referred from other states. In this time of economic retrenchment, accreditation standards are too costly or difficult for less well established and publicized facilities. This would seem to discriminate against fledging programs, mediating against their survival.

Although the standards set forth by the Joint Commission underwrite child psychiatric services for approved child treatment units, this did not motivate the hiring of child psychiatrists by the programs in our sample. Psychiatrists were needed for their special expertise and in order to perform specific tasks. Several programs had continued to use psychiatric services even when it became clear that the facility could not survive. Attitudes toward the child psychiatrist were positive: the chief reason for not employing a psychiatrist was cost rather than the perception of the physician as inept or irrelevant.

The capacity of the child psychiatrist in residential treatment is quite various; it is not clear from the questionnaire whether this stems from the psychiatrist's preference, the program's philosophy, or the children's needs. However, in certain instances a sharp curtailment in the physician's role was associated with a divergence between the program's treatment philosophy and the health care model. Compartmentalization of the psychiatrist's role is one method by which certain programs may manage the anxiety generated by the discrepancy between a social service and health care model.

The role of the child psychiatrists in residential treatment remains quite ambiguous, although individual psychiatrists may define their activities according to their expertise and the needs of the system. However, it would be beneficial if the profession could indicate the average expectable role of the psychiatrist in a multidisciplinary setting at least as well as it is defined within the medical community.

## Appendix A
## Questionnaire

1. Number of youngsters served at present:
   Boys______ Girls______ Age Range______
2. Most important treatment modalities used (beha
   modifications, therapeutic community, indivic
   therapy, family group, reality therapy, etc.):
3. Are you J.C.A.H. accredited?
   Interested in being J.C.A.H. accredited?______
   Disinterested?______
   Problems you would anticipate with the accre
   tation process:
   Too Costly______
   Useless______
   Too Difficult______
   Prefer other than mental health/hospital
   model______
   Other:______
4. Do you use the services of a child psychiatrist at
   your facility______?
   A general psychiatrist?______
   Hours per week ______
   Duties (staffing, consultation with staff, inservi
   evaluation, therapy, etc.):
5. If you do not use a psychiatrist at your facility, thi
   because:
   Too expensive______
   None available______
   None available with sufficient expertise______
   Most are inept or disturbed themselves______
   Have other disciplines who do just as well______
   Not relevant to our program______
   Other______
6. Comments:

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## Radiology

# se of the Month No. 59

rshall Brewer, M.D.
ald Pond, M.D.

ors:
athan Levy, M.D
ce R. Smith, M.D.

32-year-old gym teacher presented with several nths of activity-induced swelling and pain in the left . She did not use birth control pills and considered self in good health. Three years prior she was pitalized and anticoagulated for similar complaints olving the opposite arm.

n examination the radial pulses were normal terally but disappeared when she elevated and ucted her arms. An upper extremity venogram was formed. The arrows indicate an abnormality seen n with and without elevation and abduction. (Figure d Figure 2).

/hat is your diagnosis?

/hat treatment possibilities would you consider?

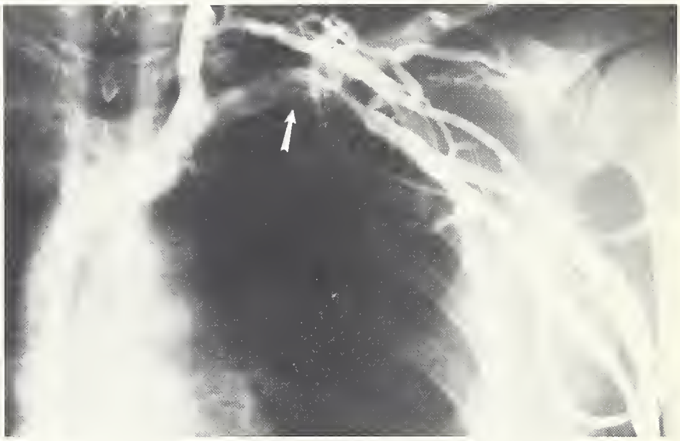

**Figure 1**
**Narrowing of the subclavian vein at the costo-clavicular region.**

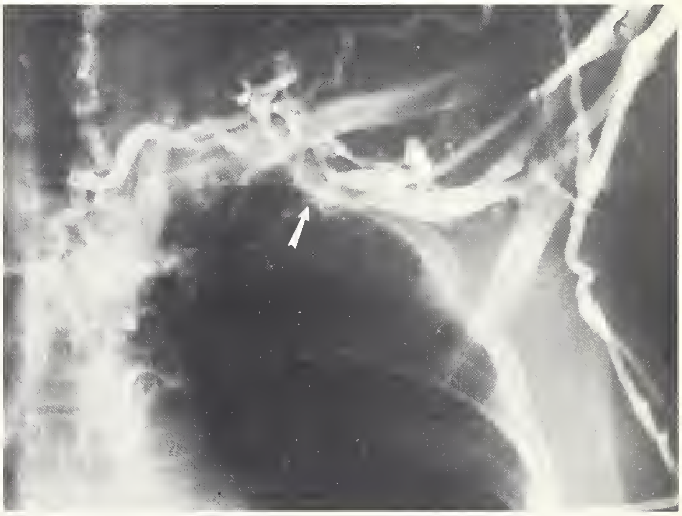

**Figure 2**
**With the arm elevated and abducted, the vein is completely occluded.**

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Continued on next page

# Answer:

The venogram demonstrates a partial occlusion due to thrombus formation within the subclavian vein. This complication of the Thoracic Outlet Syndrome occurs in about five percent of cases. In this athletic young woman, repeated trauma to the venous intima is the probable cause.

The Thoracic Outlet Syndrome usually occurs in younger women, often in the right extremity. The symptoms include ischemic pain, paresthesias, and swelling. Findings depend upon the level of obstruction. With proximal obstruction due to a scalenus anticus muscle or cervical rib, the radial pulse can be obliterated by the Adson maneuver—performing a Valsalva maneuver while the head is extended and turned to the ipsilateral side. In more distal obstruction due to costoclavicular compression, an exaggerated "military" position with the shoulders drawn down and back will obliterate the pulse. At the distal subclavian, the compression may be caused by the insertion of pectoralis minor on the coracoid process. The rad pulse can be obliterated by the Allen hyperabducti test, elevating and hyperabducting the arm above t head.

Often conservative management is successful. Tl young woman responded to aspirin and a reduction physical activity, especially hyperabduction. Weight lo and shoulder girdle strengthening exercises may given a trial, especially in obese women with po posture. The preferred surgical treatment is resection the first rib.

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Special Article

# mily Medicine
# Arizona

dford L. Kirkman-Liff, Dr. P.H.

**tract**
survey of family medicine physicians in Arizona was
lertaken to describe the state of the practices and to
vide feedback to residency programs on continuing
ication needs. A single mailing was sent to 473
sicians which resulted in 212 usable returns, for a 45%
rn rate. Urban-suburban solo practice is the
ferred form of organization. Residency graduates in
practice see 74 patients per week, while solo
ngraduates see 127 patients per week. Graduates tend
se the Problem-Oriented Medical Record and chart
ation more frequently than nongraduates, but
ngraduates are more likely to have computerized
ng. Residency graduates have been more aggressive
nongraduates in obtaining admitting privileges,
ugh both groups have met resistance in their areas.
six areas with the greatest needs for continuing
ication are nutrition, geriatrics, practice
agement, physical medicine, ophthalmology and
opedics.

Terms: Practice Management, Arizona, Family
dicine

**oduction**

amily medicine has had remarkable growth in the last
lve years. There are now more than 300 residency
grams across the United States, with the majority of
programs in community hospitals. More than 7000
dents have graduated, with some 6,500 currently in
ning. These programs and their graduates are making
ajor impact on their communities, especially in the
merly medically underserved areas. The importance
he primary care physician—which is epitomized by
family medicine physician—has been increasingly
ognized by medical educators and health policymakers. The Arizona Health Care Cost Containment System—a federal-state-county experimental trial of a competitive approach to Medicaid—legislatively mandates that a primary care physician serve as the gatekeeper and coordinator of medical services. The ambulatory care delivered by family medicine physicians is critical in a period of seemingly out-of-control hospital costs. All of these factors stimulate a need for increased understanding of the structure and performance of family medicine practices.

At the same time, family medicine residency programs are under constant pressure to maintain relevant educational programs. The problems encountered in the office and the technology for ameliorating them have been constantly changing over the last thirty years. Medicare has enabled many of the elderly to obtain adequate care. Diagnostic technology has changed with the appearance of CAT scanners, automated blood chemistries, and other computer-linked systems. The complexities of health insurance have made many physicians feel like government bureaucrats. A variety of auxiliary providers—nurse practitioners, nutritionists, psychologists—are available to supplement the physician. Residency programs need feedback on the differences between their graduates and other family medicine physicians and on their needs for continuing education.

These factors motivated a survey conducted in Arizona and New Mexico in 1981 by the Center for Health Services Administration at Arizona State University. This survey was a cooperative effort between the Center and the Arizona and New Mexico Academies of Family Physicians and the six family medicine residency programs in these two states. The purpose of the survey was to:

1. Describe the location, structure, and the performance of the practices of the family medicine physicians in these states, through a comparison of the practices of family medicine residency graduates with the practices of family physicians who entered practice before the advent of the three-year residency, and
2. Provide feedback to the state academies and the residency programs on the needs for continuing education and program improvement.

This article reports on the data for the 175 physicians practicing in Arizona.

**Methods**

This survey was based upon earlier work in North Carolina and Ohio and incorporated previously tested questions.[1-3] The questionnaire was reviewed and modified by the directors of the five residency programs in Arizona. The Arizona Academy of Family Physicians (AAFP) provided their mailing list, which was cross-checked against the lists of graduates of the five residency programs in the state. Physicians who were known to be retired or were on the faculties of a residency program were eliminated. The AAFP requested that there be only one mailing to the

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m: Arizona State University, Center for Health Services
ninistration, College of Business Administration, Tempe, Arizona
7. Reprint requests to Bradford L. Kirkman-Liff, Assistant
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physicians and that there would be no telephone follow-up. This limitation meant that it was preferable to send the questionnaires to all physicians on the lists, rather than a random samples. A total of 473 physicians were sent the questionnaire with a self-addressed and stamped return envelope. Returns totaled 222, of which ten were excluded from the analysis because they were late returns, undelivered, or from physicians who had retired or had left family medicine. This left 212 responses for the analyses. The return response rates for each residency and state organization are seen in Table One.

## Results

The results of the survey are presented in tables two through seven. The results are presented for graduates of family medicine residency programs and for nongraduates. This contrasting approach was used because the comparison of these two groups is one of the primary concerns of the survey.

The practice characteristics of Arizona family medicine physicians are outlined in table two. The physicians have a distinct preference for urban areas of population 100,000 or more, with 50 percent selecting an urban area and another 23 percent locating in a suburban area. There are no major differences between Arizona graduates and nongraduates as to selection of size and type of community for the location of their practice. Arizona graduates prefer solo practice to other types, although this preference is not as strong as that of the Arizona nongraduates (33% versus 39%). There are more Arizona graduates choosing to locate in single or multi-specialty groups than nongraduates (20% versus 11%). It is also interesting to note that fewer Arizona graduates than nongraduates have incorporated (47% versus 62%).

Table three presents the staffing and productivity patterns, divided into solo and group practices. The Arizona graduates in solo practice use less nurses, but slightly more physician extenders than nongraduates. In addition, twice as many solo practice graduates use an office manager as nongraduates (30.8% versus 15.7%). However, the Arizona solo graduates have substantially less office visits per week than other Arizona nongraduates (73.9 versus 127.4). Arizona solo graduates also have less average house calls per week, emergency room visits per week, and hospital admissions per week than the nongraduates.

An examination of the group practice physicians reveals that Arizona graduates have about the same number of physicians in the group as nongraduates, but the Arizona graduates use less than half as many nurses as nongraduates in group practice (3.0 versus 8.4). In addition, Arizona graduates use fewer physician extenders and office managers than Arizona nongraduates. Once again, it is of note that the Arizona graduates have less office visits per week than nongraduates (97.1 versus 130.0), along with less house calls, emergency room visits and hospital admissions per week than the Arizona nongraduates.

**Table 1**
**Sample Size, Returns, and Response Rates**

| | Sent | Returns | Excluded* Returns | Data | Usal Retu Rat |
|---|---|---|---|---|---|
| Scottsdale | 24 | 17 | 0 | 17 | 71 |
| Good Samaritan | 45 | 28 | 0 | 28 | 62 |
| St. Joseph's | 17 | 11 | 0 | 11 | 65 |
| Univ. of Arizona | 53 | 25 | 2 | 23 | 45 |
| Residency | 139 | 81 | 2 | 79 | 57 |
| Arizona AFP | 334 | 141 | 8 | 133 | 41 |
| Total | 473 | 222 | 10 | 212 | 45 |
| *Excluded Returns | | | | | |
| Late Returns | | 1 | | | |
| No Forwarding Address | | 2 | | | |
| Retired | | 2 | | | |
| In Emergency Medicine | | 3 | | | |
| No Longer in Family Practice | | 2 | | | |
| | | 10 | | | |

**Table 2**
**Arizona Physicians Practice Characteristics**
**(Percent of Physicians Responding Yes)**

| | Family Practice Residency Graduates | Nongraduat |
|---|---|---|
| **Number of Responses** | 40 | 135 |
| **Size of Community** | | |
| 10,000 or less | 7% | 14% |
| 10,0001 to 25,000 | 12% | 14% |
| 25,0001 to 100,000 | 23% | 17% |
| 100,001 to 500,000 | 23% | 15% |
| 500,000 or greater | 35% | 40% |
| **Type of Community** | | |
| Urban | 50% | 53% |
| Suburban | 23% | 12% |
| Small Town | 8% | 20% |
| Semirural | 2% | 5% |
| Rural | 17% | 10% |
| **Type of Practice** | | |
| Solo | 33% | 39% |
| Partnership | 13% | 13% |
| Single Specialty Group | 10% | 4% |
| Multi-Specialty Group | 10% | 7% |
| Prepaid Group/HMO | 10% | 10% |
| Solo and Associate | 13% | 14% |
| Other (Government) | 11% | 13% |
| **Is Practice Incorporated** | | |
| Yes | 47% | 62% |
| No | 53% | 36% |

The organization of the medical records, billing a office management systems of a practice have beco important due to increased risk of malpractice su increased complexity in third-party billing, a increased demands by office staff for participation

**Table 3**
**Arizona Physicians Practice**
**Staffing and Productivity**

| | Family Practice Residency Graduates | Nongraduates |
|---|---|---|
| **mber of Responses** | 40 | 135 |
| **o Practice** | | |
| mber of Responses | 13 | 52 |
| g. Nurses | .9 | 1.1 |
| g. Physician Extenders | .4 | .2 |
| cent of Practices | | |
| h Office Manager | 30.8 | 15.7 |
| g. Office Visits/Week | 73.9 | 127.4 |
| g. House Calls/Week: | | |
| aytime Calls | .39 | 1.0 |
| ight/Weekend Calls | .39 | 1.2 |
| g. ER visits/Week | 2.9 | 3.2 |
| g. Hospital missions/Week | 3.3 | 4.4 |
| **up Practices** | | |
| mber of Responses | 22 | 66 |
| . Physicians | 9.1 | 10.0 |
| . Nurses | 3.0 | 8.4 |
| . Physician Extenders | 1.8 | 2.2 |
| cent of Practices | | |
| Office Manager | 47.6 | 62.1 |
| . Office Visits/Week | 97.1 | 130.0 |
| . House Calls/Week: | | |
| aytime Calls | .35 | .62 |
| ight/Weekend Calls | .35 | .83 |
| . ER Visits/Week | 2.1 | 3.9 |
| . Hospital missions/Week | 3.0 | 3.8 |

**Table 4**
**Arizona Physicians Medical Records**
**and Billing Systems**
**(Percent of Physicians Responding Yes)**

| | Family Practice Residency Program | Nongraduates |
|---|---|---|
| **nber of Responses** | 40 | 135 |
| **dical Records System** | | |
| blem Oriented | 88% | 56% |
| ily Folder | 13% | 48% |
| nputer Access | 20% | 20% |
| tation | 59% | 34% |
| tive Files Separated | 76% | 82% |
| Long to Reach tive Status: | | |
| Year | 8% | 9% |
| Years | 52% | 44% |
| or More Years | 40% | 47% |
| **ng Systems** | | |
| rgeslip | 56% | 49% |
| board | 58% | 37% |
| ger Card | 58% | 41% |
| nputer Service | 14% | 24% |
| n Computer | 11% | 16% |
| Billing (Government) | 6% | 8% |
| **s Practice Have** | | |
| ce Manual | 68% | 53% |
| rmation Booklet | 43% | 36% |
| ormance Review | 65% | 53% |
| Meetings | 70% | 50% |

their workplace. Data on these aspects are seen in table four. In general, Arizona graduates use more problem-oriented medical records than any other type of record; (88% versus 56% for nongraduates), and 59% of the Arizona graduates use dictation. Considerably fewer Arizona graduates use the family folder than nongraduates (13% versus 48%).

For their billing, Arizona residency graduates prefer pegboards, ledger cards, and charge slips in about the same percentages (58%, 58%, and 56%). Arizona graduates are less willing to use a computer service or their own computer for billing than the nongraduates (25% combined versus 40%). However, a higher percentage of Arizona graduates than nongraduates use an office manual, information booklet, periodic performance review, and hold staff meetings in their practices.

Table five presents data on the office laboratories and diagnostic capabilities of the practices. The data on practice capabilities shows that 100 percent of the Arizona graduates have an office laboratory (versus 93% for nongraduates); but an alarmingly low fifty-three percent of Arizona graduates with a lab practice quality control in their lab. Among Arizona graduates a higher percentage of physicians, nurses, office-trained lab techs, and physician extenders perform lab tests than in the practices of Arizona nongraduates.

A more detailed review of the data showed that the graduates' practices had several providers doing the tests, while in the nongraduates' practices only one provider was assigned to the laboratory. As a group, fewer Arizona residency graduates have equipped their practices with x-ray machines, fluoroscopes, and

**Table 5**
**Arizona Physicians Practice Capabilities**
**(Percent of Physicians Responding Yes)**

| | Family Practice Residency Graduates | Nongraduates |
|---|---|---|
| **Number of Responses** | 40 | 135 |
| Does Practice Have | | |
| Office Laboratory | 100% | 92% |
| Quality Control in Laboratory | 53% | 73% |
| **Who Performs Laboratory Tests** | | |
| Physician | 65% | 50% |
| Nurse | 48% | 36% |
| Certified Lab Technician | 53% | 55% |
| Lab Tech. Trained in Office | 20% | 14% |
| Physician Extender | 20% | 11% |
| **Diagnostic Equipment** | | |
| X-ray | 45% | 62% |
| Fluoroscope | 13% | 24% |
| EKG | 95% | 92% |
| Spirometer | 45% | 54% |
| **Is Practice Equipped for Minor Surgery** | | |
| Yes | 100% | 97% |
| No | 0% | 3% |

spirometers than nongraduates. However, 100% of the Arizona graduates reported their practices were equipped for minor surgery, versus 97 percent of other Arizona nongraduates.

The results on patient characteristics and the Arizona graduate's admitting privileges are shown in table six. Arizona graduates see about the same percentage of obstetrics and adult medicine patients as nongraduates, with slightly more pediatrics (20% versus 16%) and less geriatrics (17% versus 24%) than other Arizona nongraduates. Most of the care Arizona graduates deliver is acute care (48%), with a higher percentage of preventive care (20% versus 17%), and a lower percentage of chronic care (32% versus 40%) than that delivered by Arizona nongraduates. These results may be a reflection of the younger age of the graduates attracting younger patients, such as families which are in the process of growing. This would affect the distribution of the type of care provided. If residency graduates are servicing a younger population, they would have less chronic care and more acute and preventive care than nongraduates. The data indicates that this is so, though the only significant difference is in the chronic care proportion.

In regards to admitting privileges, the Arizona residency graduates appear to be slightly more aggressive in obtaining privileges than nongraduates, although the percentages in each category are about the same. The largest difference is in pediatrics, with 92% of the Arizona graduates having privileges there, compared with 80% of the Arizona nongraduates. There are no Arizona graduates with admitting privileges in surgery or psychiatry, versus ten percent (combined) for Arizona nongraduates.

A total of three Arizona graduates (out of 40 physicians in the sample) have ever been denied admitting privileges, and two of those were in obstetrics. In other words, 7.5 percent of the Arizona graduates have been denied privileges, compared to 3.7 percent of the nongraduates who report ever being denied privileges. By computing the ratio of the number of physicians who were denied privileges to the number who applied for privileges, it was found that the nine percent of the residency graduates who applied for obstetric privileges were denied, while five percent of the nongraduates who applied for obstetrics were denied. None of the residency graduates who applied for pediatric privileges were denied, while this happened to two percent of the nongraduates who applied for pediatric privileges. None of the residency graduates who applied for ICU privileges were denied, while three percent of the nongraduates who applied for that area were denied. This data indicates that obstetrics is the most difficult privilege for family physicians. This is unfortunate, for a lack of obstetric privileges can lead to a break in the continuity of patient care.

Table 6
Arizona Physicians Patient Characteristics and Admitting Privileges
(Percent of Physicians Responding Yes)

| | Family Practice Residency Graduates | Nongraduate |
|---|---|---|
| **Number of Responses** | 40 | 135 |
| **Type of Patient** | | |
| Obstetrics | 5% | 5% |
| Pediatrics | 20% | 16% |
| Adult Medicine | 58% | 55% |
| Geriatrics | 17% | 24% |
| **Type of Care Given** | | |
| Chronic Care | 32% | 40% |
| Acute Care | 48% | 43% |
| Preventive Care | 20% | 17% |
| **Admitting Privileges** | | |
| Medicine | 97% | 93% |
| Pediatrics | 92% | 80% |
| Obstetrics | 53% | 46% |
| Coronary Care | 79% | 74% |
| Intensive Care | 82% | 75% |
| Surgery | 0% | 9% |
| Psychiatry | 0% | 1% |
| Physician Ever Denied Admitting Privileges | | |
| Yes | 8% | 4% |
| No | 92% | 96% |
| **Type of Privilege Denied (Number of Physicians)** | | |
| Medicine | 0 | 1 |
| Pediatrics | 0 | 2 |
| Obstetrics | 2 | 3 |
| Coronary Care | 0 | 3 |
| Intensive Care | 0 | 3 |
| Other | 1 | 0 |
| **Total Number of Physicians Denied Privileges** | 3 | 5 |

The results on the adequacy and value of training are seen in table seven. The survey asked each respondent to rate their training on a scale from one to five, with c
indicating extremely adequate training (or extrem
valuable training) and five indicating extrem
inadequate training (or training that was not at
valuable). The mean scores for graduates and n
graduates are shown, as well as a priority for continu
education, which was computed by comparison of
adequacy and valuableness scores for those physici
who provided both.

The six areas with the greatest need for continu
education are nutrition, geriatrics, practice m
agement, physical medicine, ophthalmology, a
orthopedics. There are some differences betw
graduates and nongraduates. Overall, reside
graduates felt that their training was more adequate a
more valuable than nongraduates. This data can prov
some guidelines for the strengthening of reside
programs. These programs may want to consi
employing a part-time nutritionist to provide educat
in that area to residents. Practice management r
deserve some extensive coverage in the third-year of
residency. The ratings given to general surgery a
anesthesiology and the small number of reside

## Table 7
## Arizona Physicians Training Ratings

| | Residency Graduates | | | Nongraduates | | |
|---|---|---|---|---|---|---|
| | Adequacy* | Valuableness** | Priority*** | Adequacy | Valuableness | Priority |
| rition | 3.7 | 2.7 | 1 | 3.7 | 2.6 | 2 |
| atrics | . 3.0 | 2.1 | 2 | 3.3 | 2.3 | 3 |
| tice Management | 3.2 | 2.5 | 5 | 4.4 | 2.6 | 1 |
| sical Medicine | 3.3 | 2.7 | 7 | 3.7 | 2.7 | 4 |
| thalmology | 3.1 | 2.6 | 9 | 3.1 | 2.3 | 5 |
| nopedics | 2.5 | 1.8 | 4 | 2.7 | 2.1 | 11 |
| matology | 2.0 | 1.6 | 11 | 2.8 | 2.1 | 6 |
| | 2.5 | 1.8 | 3 | 2.6 | 2.1 | 15 |
| eral Ambulatory Care | 1.9 | 1.5 | 10 | 2.6 | 2.0 | 9 |
| rgy | 2.6 | 2.3 | 15 | 3.1 | 2.4 | 7 |
| diology | 2.3 | 2.0 | 14 | 2.6 | 2.0 | 10 |
| atrics | 2.3 | 1.6 | 6 | 2.2 | 1.8 | 18 |
| umatology | 2.7 | 2.4 | 16 | 3.1 | 2.4 | 8 |
| logy | 2.8 | 2.3 | 8 | 2.7 | 2.4 | 21 |
| avioral Medicine/ hiatry | 2.8 | 2.5 | 17 | 2.9 | 2.4 | 16 |
| iology | 2.5 | 2.3 | 20 | 3.0 | 2.4 | 13 |
| ocrinology | 3.1 | 2.8 | 18 | 3.2 | 2.7 | 17 |
| eral Inpatient Care | 2.1 | 1.8 | 13 | 2.1 | 1.9 | 22 |
| eral Surgery | 3.0 | 2.6 | 12 | 2.6 | 2.5 | 24 |
| nonary | 1.7 | 1.8 | 24 | 2.8 | 2.2 | 12 |
| natology | 3.3 | 3.0 | 19 | 3.1 | 2.7 | 20 |
| roenterology | 1.9 | 1.8 | 21 | 2.7 | 2.3 | 19 |
| nmunity Medicine | 3.2 | 3.4 | 26 | 3.6 | 3.0 | 14 |
| ctious Disease | 2.4 | 2.3 | 22 | 2.3 | 2.1 | 23 |
| sthesiology | 3.9 | 3.9 | 23 | 3.6 | 3.5 | 25 |
| tetrics | 2.5 | 2.7 | 25 | 2.1 | 2.1 | 26 |

cale: 1 = Extremely Adequate to 5 = Extremely Inadequate
cale: 1 = Extremely Valuable to 5 = Not at all Valuable
Derived from Analysis of Adequacy and Valuableness Scores from Respondents who Provided Both

duates with surgical privileges may warrant some nsideration of these aspects of the residency. This data es not provide definitive answers to the issues of ntinuing education or program development, but it icates which areas need consideration.

## cussion

his survey of family medicine physicians in Arizona rifies the position of the profession in the state. These ysicians have not abandoned the rural areas: proximately one-quarter are practicing in small towns or rural areas with populations of less than 25,000. o practice or small group practice (three or fewer ysicians) is the preferred organization; about half e incorporated. The practices are very productive, ecially those of older physicians. Those family ysicians who want admitting privileges have been e to obtain them, except for some problems in tetrics. The data indicates that many family medicine ysicians have not sought privileges in intensive care or onary care. Family medicine physicians who do not e and have not asked for privileges in these areas but nt such privileges should consider requesting them: data indicates that they will usually receive the vileges.

The data indicates several areas for continuing education and revisions in residency programs. The information on practice management indicates that more physicians are purchasing computer systems for their offices. These systems can become expensive toys if they are not correctly integrated into the practices. Laboratory quality control programs appear to be needed, given the large number of practices reporting an office laboratory but no quality control program. The data on adequacy and valuableness of training shows that nutrition, practice management, and geriatrics are three areas where graduates of residency programs and nongraduates both desire continuing education. Pediatrics and orthopedics are two additional areas of need for graduates, while nongraduates expressed an interest in programs on physicial medicine and ophthalmology.

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# Getting Them Together Dean's Clinical Rounds

The health professions are often criticized for parochialism. Not only do the professionals want for day-to-day communication, but they frequently isolate themselves in teaching and in research. The problem is compounded by discipline prerogatives dictated by external agencies such as specialty board requirements and by education and research funding sources. These forces tend to internalize the professionals and the disciplines. The problem is particularly acute in a school of medicine.

For some years we have had bimonthly interdisciplinary Dean's Clinical Rounds. The objectives are two. The first intends to bring new knowledge to the broader spectrum of health professionals. The second brings various disciplines and professionals together in a forum which illustrates the breadth of interdiscipline and interprofessional approaches to the problem. While the major focus is toward medical students, the invitation for participation is extended to all housestaff, basic science graduate students, students in nursing, pharmacy, sociology and other health related professions and indeed the breadth of the health care community.

Topics are selected which lend themselves easily to interdisciplinary approaches. We attempt to present aspects of fundamental and basic clinical science, various treatment modalities, and usual community resources which bear on the problem. Faculty and community personnel share the podium.

Topics have varied from the current such as sports medicine to the detailed and specific such as renal stone formation. The problems have crossed all ranges of age and discipline. Pediatric problems such as anorexia nervosa and geriatric problems such as urinary incontinence have been included. Practical problems such as the impaired physician and other health professionals have been covered in depth. Presenters have included bench scientists and a broad spectrum of physicians, nurses, social workers, lawyers, patient educators, and administrators.

The presentations are highly polished. Time constraints are tightly controlled and a discussion period is required for each session. Audience questions are encouraged. They are stimulating and incisive. The questions serve to test real and practicality for each of t conferences. Discussions of ethics a cost are always included and develop through the Dean as moderator.

Each Clinical Rounds is recorded video-tape. These one and one-half h tapes generally are not altered from t live presentations. They are shelved in t Arizona Health Sciences Center Libr and are available for distributi throughout the state on reque Continuing medical education credit available to various health professio groups.

Dean's Clinical Rounds have beco an arena for a special kind of educati At the very least, they have become show-place for demonstrating int disciplinary interprofessional approach to common medical problems. Th success is measured perhaps most in t generous attendance of several hundr people at each session. The val however, is personal in the growth of t participants and audience who see t value of interrelationships.

Louis J. Kettel, M.D.
Dean
College of Medicine

# A Contradiction

If we could possess, - as the lawyers
Claim we should,
A state of perfection, - so that no one
Ever would;
Die, as a result of disease or
Degeneration,
Oh what a cause for ceaseless
Celebration!

The fact remains, and it's very
Sure,
That doctors die too of things
They're supposed to cure;
If we were as good as they
Say we should be,
Why haven't we attained immortality?

P. B. Jarrett
Phoenix

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# Briefly Noted

**Kenneth B. Desser, M.D., F.A.C.C.**, Phoenix, has been appointed to the 70-member Editorial Board of the *Journal of the American College of Cardiology.* Members of the Editorial Board will help formulate the editorial policies and directions for the new journal.

**Howard S. Gray, M.D.**, Phoenix, was appointed Medical Director of Phoenix Camelback Hospital and **Robert F. Meyer, M.D.**, Phoenix, was appointed Medical Director of Scottsdale Camelback Hospital.

**James R. Doyle, M.D.**, Casa Grande, was recently elected Chief of the medical staff at Hoemako Hospital for 1982-83. **Manuel Guerrero, M.D.**, Casa Grande, was elected Vice President and Mehernaz Irani, M.D., Casa Grande, was elected to her third term as Secretary.

**Neil O. Ward, M.D.**, Phoenix, was elected by the Board of Directors of the American Academy of Otolaryngology Head and Neck Surgery as the Academy's 1982 Alternate Delegate to the American Medical Association. He will serve as the Academy's AMA Delegate in 1983.

**Donald Schaller, M.D.**, Phoenix, has been elected President of the Group Health Association of America.

Original papers on new approaches to trauma care are being sought for presentation at "Trauma Care '83," a national symposium sponsored by John C. Lincoln Hospital and Health Center and scheduled for January 9-13, 1983. Original papers should be submitted to Jeffrey A. Singer, M.D., "Trauma Care '83," John C. Lincoln Hospital and Health Center, 9211 North Second Street, Phoenix, Arizona 85020.

Continued on next page

**ArMA President John E. Oakley, M.D. presented Maricopa County Sheriff Jerry Hill with a Certificate of Accreditation signifying that the jail has met health-care standards set by the AMA. Nathan W. Groce, M.D., Phoenix, and ArMA's Assistant Executive Vice President, Misty Coumbe, participated in the jail accreditation survey conducted by American Health Consultants, Inc., over a two year period.**

## New Members

The Arizona Medical Association welcomes the following Physicians who have become members since July 1, 1982.

### Maricopa

**Robert J. Bloomberg, M.D.**
Internal Medicine
2501 East Southern, Tempe
McMaster University Medical Center, Canada—1976

**Richard D. Burns, M.D.**
Radiology
444 West Osborn Road, Phoenix
Temple University—1976

**Desmond Cohen, M.D.**
Obstetrics/Gynecology
10211 North 32nd Street
University of Witwatersrand, Africa—1949

**Fred Cucher, M.D.**
Internal Medicine/Cardiology
9225 North Third Street, Phoenix
Chicago Medical School—1975

**Jeffrey Isaacs, M.D.**
Internal Medicine
3411 North Fifth Avenue, Phoenix
University of Witwater, Africa—1971

**Ruben S. Valdez, M.D.**
Cardiology
525 North 18th Street, Phoenix
University of Colorado—1972

**Donald Carmen Waugh, M.D.**
General Practice
111 South 34th Street, Phoenix 85010
University of Toronto, Canada—1966

### Mohave

**Gene Kalin, M.D.**
Internal Medicine
1830 Mesquite Street C
Lake Havasu City
University of Illinois—1976

### Yavapai

**Ian Becke, M.D.**
Internal Medicine
Verde Valley, Arizona
University of Sidney, Australia—1971

## What They're Saying

"It is our duty to remember at all times and anew that medicine is not only a science, but also the art of letting our own individuality interact with the individuality of the patient." Albert Schweitzer.

**Taking the Advanced Cardiac Life Support exam in July were Richard Abbuhl, M Tempe, (left) and James Barcz, M.D., Casa Grande.**

**Mahendra Nath, M.D., Phoenix, (left) and Dr. Barcz at the ACLS course.**

*Medical History*

# onard Wood, M.D.

## me Arizona Territory luences

n W. Kenndy, M.D.

he first seeding of my interest in this dier physician, that later was to come an eccentricity, the first seedling upon my retina while browsing in a ner of the Boston City Hospital in tember 1931. Those of you who have traversed this maze of corridors and nels at the BCH have missed a most lightening experience. Medical dents, in ancient days, have been own to wander there undetected for ir last two years of clinical clerkship, ore surfacing for graduation, all the e sought by professors who inhabited multiple tutes and institutes and the rds. The latter always seethed with ients.

here is a plaque, which we came oss while AWOL from Dr. Minot's ghty dolorous lectures. It stated that onard Wood interned at Boston City spital. What it doesn't say is that he was missed before his year of servitude was mpleted. The hospital director took a n view of house officers who showed ns of transgressing on the rigid hospital es. In this instance, no surgical treatnt could be rendered without a senior ff physician's consent. One charge was oven false and another partially so. In te of the fact that his senior attending ysician testified on Wood's behalf, it s to no avail. He was dismissed, tember 1884.[1]

He took up rooms in a private dwelling se by to establish a private practice. is languished. At the suggestion of a ysician friend he took the Army edical Corps entrance examinations, ought nothing much about it and a few nths later received acceptance. He s told that his regular commission uld not be rendered until funds came available but he was offered a sition in the civil service as an acting assistant surgeon with the troops in the west. Within a fortnight he had closed his office, bade goodbye to his family and boarded the train for Arizona Territory.[1] Already the decisive character of the man was evident. He was not dismayed by his dismissal from the hospital, and he quickly accepted the challenge of serving with troops in the far west.

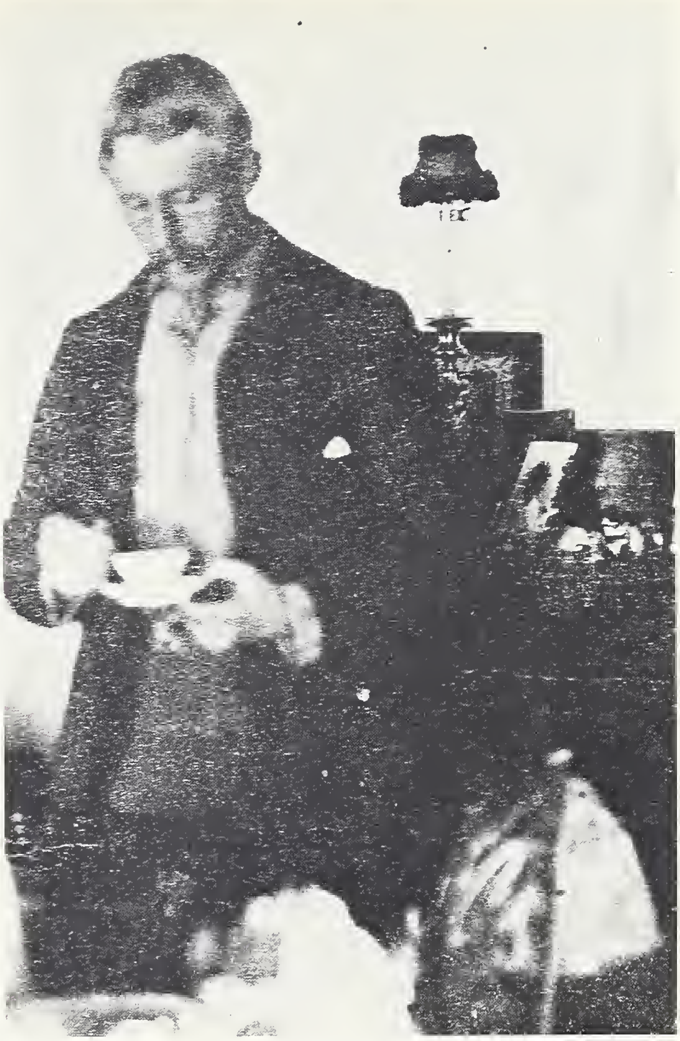

**Figure 1**
**Leonard Wood at Fort Huachuca, A.T., circa 1885 (Courtsey of Arizona Historical Society Library)**

He reported in at Fort Whipple on a June evening in 1885, and met Dr. Fred Crayton Ainsworth, who gave him advice and counsel.

Ainsworth was the post physician, a regular of the Medical Corps, but was later to become the Chief of the Record and Pension Office, now termed the Adjutant General of the Army. He was on duty in Washington, when some years later, Wood reported there as Chief of Staff; both these men had entered the service as physicians, both outran their West Point colleagues in obtaining positions of high command, not in the Medical Corps but in The Line.[2] This was never to occur again and it created almost as much hub-bub as when George Marshall became Chief of Staff as a non-West Pointer four decades later.

Three days later he was on his way from Fort Whipple, on orders from General Crook, directing him "not to stop at Fort Bowie as originally ordered but to go straight to Fort Huachuca." He spent a night at Maricopa, took the Southern Pacific eastward to Benson, then a spur line over to Huachuca.[1] The spur line still exists.

A clerk entered in the medical record; "Act. Asst. Surgeon 'Leoander' Wood, U.S. Army arrived at Post, July 4, 1885."[3] (Figure 1.)

He was ordered to report immediately to Henry W. Lawton, Captain of B Troop Fourth Cavalry.[3] Lawton was a six-foot-five, hundred and thirty pound professional soldier who had been a law student at Harvard when Fort Sumter fell, and four days later he was in the Army. He participated in twenty battles, and came out with a temporary commission as Lt. Colonel at twenty-two. (It may come as a

---

m: 705 East Tuckey Lane, Phoenix, Arizona 14.

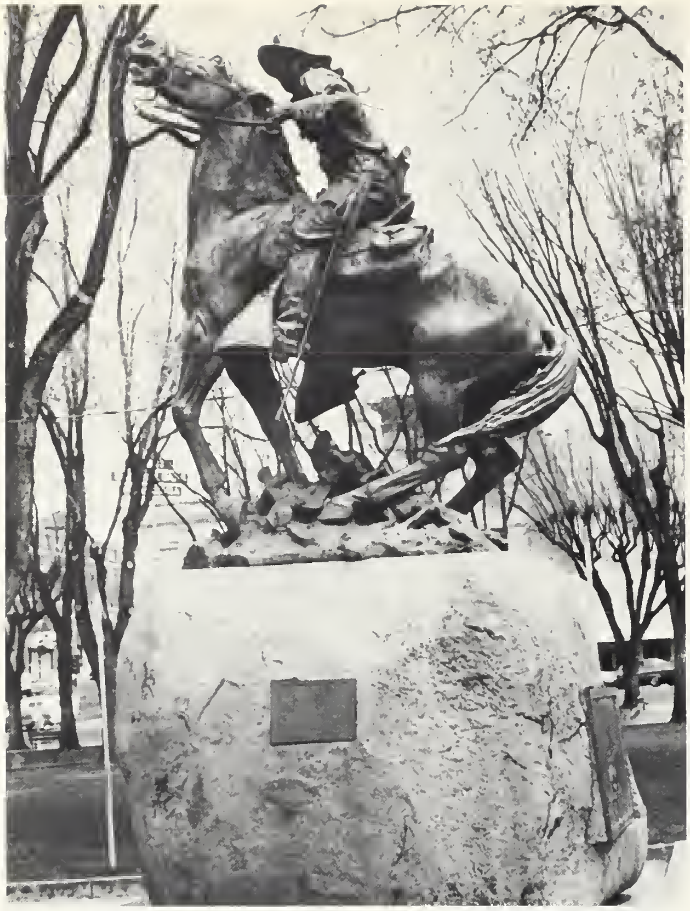

**Figure 2**
**The Rough Rider statue, Prescott, Arizona**

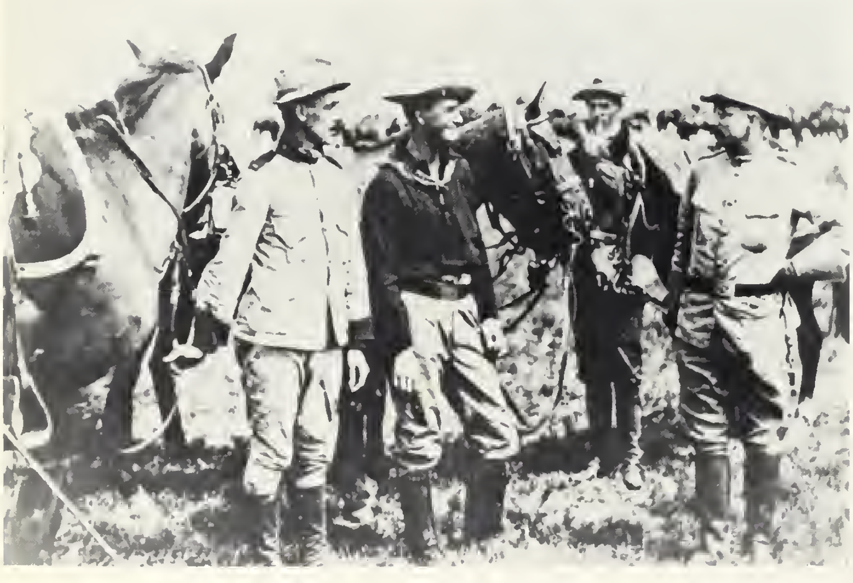

**Figure 3**
**Rough Riders 1898. Left to right: Colonel Leonard Wood, Commanding Officer; 1st Lt. John Greenway; Orderly Charles Siper; Colonel Theodore Roosevelt, Executive Officer, First United States Cavalry. (Courtesy of Arizona Historical Society Library)**

surprise to learn that promotion in Army in Civil War times was almost rapid as promotion in the Army Air Co in World War II).

Wood and Lawton became fast frier They were both great horsemen, b New Englanders, loved the outdoors, didn't easily give up any task assigned them. Two days later, on July 6, Wood in the field and rode "45 miles in the 30 hours," he recorded in his diary.[4] W alternate journeys into the field, and d on the post he was respected, but especially popular; he was respected the troopers because they found that could take whatever mustang they g him to ride and he could ride further longer than anybody else.

After my preliminary brush with plaque about General Wood at Bos City Hospital, it was twenty-odd ye before I heard or thought any more ab this incident. Then soon after my arriva Arizona 1949, we took ourselves to h country to gaze upon the fair city Prescott, the first Territorial capital. In foreground of the Court House, ther this great equestrian statue, by Gut Borghum, to the Rough Riders, albeit true natives of Prescott say this is Bu O'Neal, KIA at San Juan Hill, nonethele find nothing on the bronze plaque indicate that it is specifically the decea hero. It does carry a plaque list Colonel Wood as the Command Officer and Lt. Col. Theodore Roose as the Executive Officer of the First Uni States Volunteer Cavalry. Well my inte was kindled again. (Figure 2, and 3.)

The preceding and what follows, is exactly new about Wood in Ariz Territory. His diary that he carefully k during the field campaign remain classic. Lane's *The Journal of Leon Wood , May-September 1886* places i perspective.[5] The Gatewood evidenc fully presented by Faulk[6] and Thra Depending on their taste, partisans now align themselves claiming sainth for Crook, Miles, Crawford, Lawt Wood or Gatewood for the fi Geronimo defeat. To some of us, it sim exemplifies, the usual train of hun history and progress. Scarcely anyth originates de novo, but all accompli ment is a composite of all the cont utors, "some are just more equal t others."

The burden of my study is simply describe Wood's character, his m vation to complete any mission to wh he was assigned, and to make a observations about his physical ill which would have stopped the ordin mortal dead in their tracks early in t career, but this illness appears only have spurred him on to grea endeavors.

When Miles asked Wood to determ if the best soldiers "could equal in acti

d endurance the Apache warriors," he
ther continued, "I would like to have
u accompany Capt. Lawton's com-
nd," Miles told Wood, "As you are
bably in as good condition as anyone
endure what they endure, you could
ke a careful study of the Indians—and
cover wherein lies the superiority, if it
es exist. . ." (General Crook had been
eved and General Miles assumed
nmand of the campaign.)

Certainly, Wood was overly optimistic
en "I told (General Miles) I believed
right sort of white man could
entually break these Indians up and
npel them to surrender" May 4, 1886.[8]
continually moving in on the Indians
d keeping them on the move, even in
roughest terrain, the troopers very
arly pulled it off.

ater, Miles suspected that it wasn't to
so and reverted to a tactic devised
lier by General Crook, palaver, and to
it he selected one of Crook's most
sted Lieutenants. Charles B. Gatewood
d nine years service in the region, the
three in charge of the Fort Apache
ency.[9] Lt. Gatewood was to contact
vton's command and then Geronimo
d his hiding hostiles. Reluctantly, he
ceeded, but was denied complete
cial and public recognition and died
ly in life in the year 1896. A bitter man,
oken in health and retired from the
vice.[10] Lt. Gatewood's widow's pen-
n was a paltry $24 per month.

Vood, with Lawton's detachment, had
veled 1800 miles during the latter part
he Geronimo campaign and was cited
Lawton for the Medal of Honor. It was
ally awarded in 1898 by President
Kinley. Wood, by that time, was
ioned in Washington, D.C., and was
President's personal physician. This
s to hang like "an albatross about his
ck," and was always a fair target for all
his service nonfriends, as he climbed
promotion list, as an officer of the
e, who began his career as a lowly
dical officer. He rolled over the Point
duates like a pack mule down a Sierra
dre Canyon. Even his critics admitted
superior performance. (Figure 4.)

ome stated that he had never heard of
not fired in anger. Well, at least on two
casions, shots were fired possibly in
ger.

Vood's diary, July 2, 1886, you will note
t this is about one year after his
ignment to Huachuca, "Infantry still
hout an officer and greatly in need of
neone to take charge of them. I
unteered and was placed in command
lay. The men are pretty badly de-
ralized."[11]

uly 13, 1886, while closing in on what
y believed to be the Indian en-
npment, "About this time heavy firing
gan on the up river side. We then
vanced pretty rapidly and finally were
in the bottom land near the camp, and were then fired into a body of our own Scouts (Brown Scouts), who were advancing towards us having found no Indians in the camp.[12]

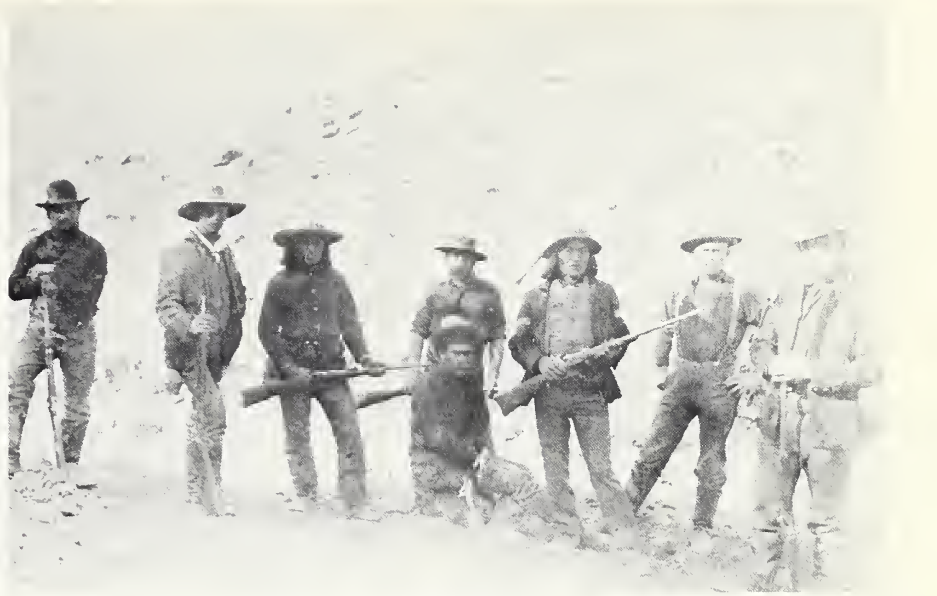

**Figure 4**

**Party of packers and Indian guides detailed by Gen. Miles to roundup lost livestock after close of Geronimo campaign 1887. Left to right: Groves, Stevens, Chino, Funston, ?, Tony Furgerson, and Leonard Wood. (National Archives)**

On August 11, 1886, he recorded, "We were working up a canyon, when suddenly a couple of bullets struck so near us that we were both covered with dirt. My mouth and face were full of it. Horn was well covered. We dropped under cover of the nearest rocks without waiting to ask any questions. We kept under cover for some time and finally worked back carefully under cover over the ridge. The people who fired at us must have undoubtedly been Indians on the opposite side of the canyon."[13] On two occasions—once mistakenly by Army Scouts, and the other by hostiles. It simply depends on whose barn is burning down—as to whether the bullets "were fired in anger."

The field experience in Arizona Territory and the Sierra Madre terrain of Sonora, Northern Mexico, his own bouts of fever—probably malaria, and probable knowledge gained about yellow fever in the area, served him well as Governor of Cuba. Yellow fever was rampant along the coastal areas of Sonora, Mexico, and the last severe epidemic of yellow fever in that community was thought to have occurred about 1885-90.[14] All of this stood him in good stead in the Cuban Campaign and prepared him for his assignment as Military Occupation Commander of Santiago, and by 1900 he was Military Governor of Cuba. Yellow fever, Cuban apathy, bad sanitation, and local corruption all demanded and got his attention and by the end of 1899 he was a Major General. This was a short fourteen years after his Army career began. Then to the Phillipines as governor of Moro Province, followed by a four year stint as Military Administrator of all of the Phillipines, and then was appointed Chief of Staff, U.S. Army, 1910.[15]

Perhaps his medical history is not of great general interest, but I do believe that it exemplifies the tenacious character of the man.[16-18]

In 1904, his lameness of the left leg became obvious. It had first occurred in 1901 following an attack of typhoid fever. There was a growing numbness of his left hand. He simply pushed his exercises and physical fitness program to overcome and compensate for this disability. One physician noted a small, hard protuberance on the right side of the skull, and this was thought to be the result of an accident Wood suffered in Santiago in 1898. Later in the year, back in Boston, he was persuaded to have surgey. Dr. Arthur Cabot performed it, and found what was described as a benign bony tumor of the skull, a psammoma. The bone was scraped and replaced, (1904).

By 1910, "local seizures" occurred in his left leg and arm, with weakness, awkward gait, and unsteadiness. He consulted Dr. Harvey Cushing, then developing a new branch of medicine, neurosurgery, at John Hopkins in Baltimore. Cushing did a two-stage brain operation, each session about four hours duration, under local anesthesia. He found the tumor, removed it, and again replaced the bone flap. This ultimately proved to be a fatal mistake, for it was not realized at the time that the bone overlying the tumor (meningioma) must also be removed or it will recur. A few days later, much to Cushing's chagrin, but characteristic of Wood, the General attended Dr. Welch's 60th birthday anniversary. There were 400 to 500 guests present and "Wood, much to my embarrassment, and astonishment of others, insisted on coming to the dinner with his head closely capped."[19] (Figure 5.)

Wood returned to duty, became Chief of Staff of the Army 1912-14, but failed to obtain command of the A.E.F. in 1917, it was awarded to Pershing.

Doctor Joseph Madison Greer, a longtime physician of Phoenix, was a young medical officer stationed at Walter Reed Army Hospital, Washington, D.C. at the outbreak of World War II. He recalled that General Wood was sent over twice for a rigorous physical examination to determine whether "He was fit for field duty." He hopped "funny," but was passed each time as "fit for field duty." The third time, as Doctor Greer recalled, before Wood was ordered to the hospital, word came down "from upstairs" that the findings were not acceptable. By whom, and for what reason, Doctor Greer was not clear.[20] But Wood's brilliant career was quietly derailed by the regulars; his forthright call for preparedness some years before had incurred the displeasure of President Wilson.

He was sent to the field to train troops, but never commanded troops in the A.E.F. He lost a bid for the Republican nomination for President in 1920 when he and Lowden reached a stalemate in convention votes. The backroom politicians rewarded the Nation by giving them Harding.

"Biting the bullet" of disappointment, he accepted the appointment as Governor General of the Phillipines, where he served from 1921 to 1927.

Slowly and relentlessly, his old malady recurred. Lameness, partial paralysis and speech slurring forced him to consult Cushing again. By this time the natural history of meningiomas was clearly understood. It had been carefully delineated by Cushing, and the tumor had locally recurred from the skull bone flap which had been replaced at each of his previous surgeries, the last one by Cushing. Wood died a few hours after surgery due to an undetected intracranial hemorrhage. Cushing was distraught and refused to operate for two weeks. Never before had his housestaff noted any break in the iron self-control for which Cushing was noted.

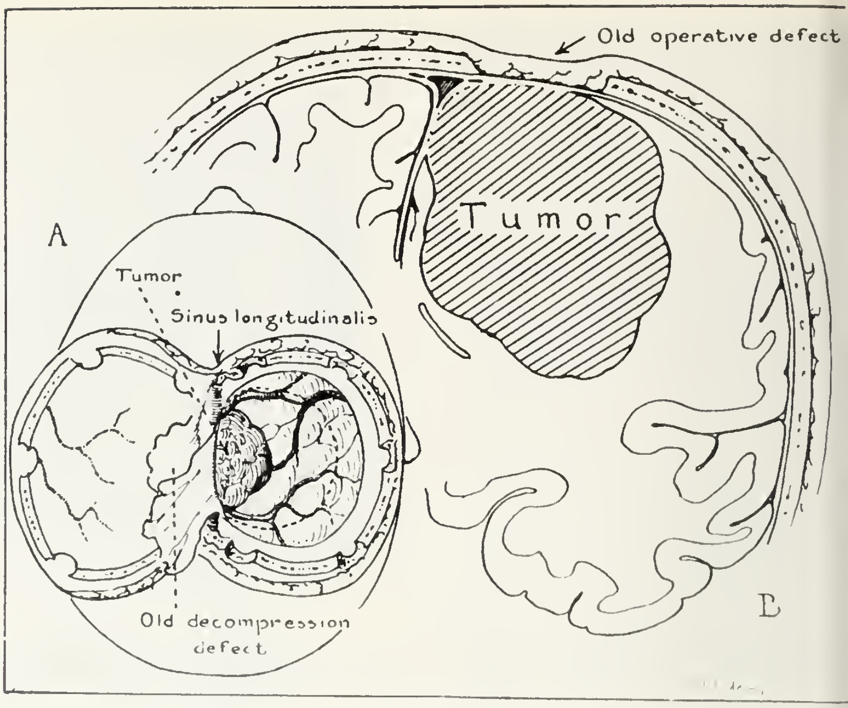

Figure 5
**The original postoperative sketch to show A) manner of exposing the tumor, and its estimated position "in situ" drawn to scale. Cushing's first surgery February 191 (Courtesy Charles C. Thomas Publishing Co.)**

Now the leading performers in the last Geronimo campaign were finally off stage, Gatewood, Crook, Miles, Lawton, Wood and all the others. Who, today, associates them with Geronimo? Perhaps very few, except those with special interest in that era of our national times. Some say, and not without reason, that with his limited resources Geronimo out-generaled and out-fought them all. "A victory has many fathers, but defeat is an orphan."[21]

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17. Hagedorn, Vol II, pp 60-62 and pp 83
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21. Carell P: Quoting Count Cinano's Di in *The Foxes of the Desert* Dutton & 1958, Bantam Edition, page 293.

## ArMA Reports

**ie minutes appearing in this section
ve been condensed. A complete copy
the minutes will be sent to any
ember requesting them.**

### HYSICIAN'S HEALTH COMMITTEE
### SOUTHERN ARIZONA HOSPITAL
### CHIEFS OF STAFF

meeting called by Thomas E. Bittker,
D., Chairman of the Physician's
alth Committee of the Arizona
edical Association, Inc. with the
iefs of Staff and/or their represen-
ives of the hospitals in Southern
zona, took place on July 21.
ollowing a brief introduction, Dr.
tker addressed the group regarding
need to reach out to the impaired
ysician, the activitives of ArMA's
ysician's Health Committee in that
gard, and the role, if any, which might
played by ongoing, in-hospital
ograms for the prevention, recog-
ion and treatment of the impaired
ysician. In addition to the infor-
tional materials provided to the
endees, Dr. Bittker showed a slide
esentation entitled "Early Clues of
ysician Impairment."
he balance of the meeting was
voted entirely to open discussion on
current activities of the hospitals
volved, with questions responsed to
members of the committee, Dr.
ymer, and each other. It was obvious
at the subject matter had generated
erest and it was determined that the
ssibilities of 1) establishing an in-
spital program and/or 2) developing
ntacts and resources to serve within
community setting and act as
isons with ArMA's Physician's Health
ommittee would be discussed with the
affs of their respective institutions and
y and all suggestions or ideas brought
ck to the committee for consideration
a future date.

## Future Medical Meetings

The following institutions and organizations have been accredited for their continuing medical education programs by the Arizona Medical Association and/or the Accreditation Council for Continuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona
Lung Association
Walter O. Boswell Memorial Hospital
Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center
of Northern Arizona
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoenix
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program,
(THMEP) Tucson
University of Arizona College of Medicine,
Tucson
Veterans Administration Medical
Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

### SEPTEMBER

**Advanced Cardiac Life Support Recertification/Provider**
September 15-17. Arizona Medical Association Office, Phoenix. Sponsor: ACLS, AZ Affiliate Amer. Heart Assoc. & ArMA. Contact: Beverly Richter, Arizona Medical Association, 810 West Bethany Home Road, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**AMA Fifth Annual Conference on The Impaired Physicians**
September 22-25, Portland, Oregon. Sponsor: American Medical Association, Oregon Medical Assoc. and Multnomah County Medical Society. Contact: AMA Department of Meeting Services, 535 North Dearborn Street, Chicago, Il 60610. Approved for 19 hours of Category 1 credit.

### OCTOBER

**Geriatrics**
October 2. Ramada Safari Resort, Scottsdale. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

**The Under-Achieving Child Behavorable Health**
October 8. The Registry Resort, Scottsdale. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital Medical Center, 525 North 18th Street, Phoenix, AZ 85006. Approved for 7 hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
October 12-14. St. Joseph's Hospital, Phoenix. Sponsor: ACLS, AZ Affiliate Amer. Hospital Assoc. & ArMA. Contact: John Raief, M.D., Emergency Room, St. Joseph's Hospital and Medical Center, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Annual Scientific Program and Postgraduate Course**
October 13-17. Mountain Shadows Resort, Scottsdale. Sponsor: Pacific Coast Fertility Society. Contact: Pacific Coast Fertility Society, 5820 Wilshire Blvd., #500, Los Angeles, California 90036. Approved for 21 hours of Category 1 credit.

**Cardiovascular Drug Therapy**
October 15-16. Thunderbird Lodge, Grand Canyon. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Fourth Annual Seeing Our Way Clear**
October 23. Arizona Biltmore, Phoenix. Sponsor: St. Luke's Hospital and Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital and Medical Center, Phoenix, Arizona 85006. Approved for 4.5 hours of Category 1 credit.

### NOVEMBER

**Second Annual Southwestern Poison Symposium**
November 5-6. Scottsdale Hilton Hotel. Sponsor: University of Arizona Health Sciences Center and Arizona Poison Control System. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 12 hours of Category 1 credit.

**Flexible Sigmoidscopy**
November 5-6. Sheraton Scottsdale Inn, Scottsdale, Arizona. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, Phoenix, AZ 85006. Approved for 8 hours of Category 1 credit.

**Neoplastic Hematologic Disorders**
November 6-7. The Inn, McCormick Ranch, Scottsdale. Sponsor: Arizona Society of Pathologists. Contact: Grant A Hertel, M.D., Good Samaritan Medical Center, 1111 E. McDowell Road, Phoenix, Arizona 85006.

**Advanced Cardiac Life Support Recertification/Provider**
November 10-12. St. Joseph's Hospital and Medical Center, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., & ArMA. Contact: John Raife, M.D., Emergency Room, St. Joseph's Hospital and Medical Center, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**XXX Annual Convention of the Medical Society of the United States and Mexico**
November 10-13. Guanajuato, Mexico. Sponsor: Medical Society of the United States and Mexico. Contact: Executive Secretary, 3161 North Pantano Road, Tucson, Arizona 85715.

**Models of Care and Rehabilitation in Traumatic Head Injury: A Southwest Symposium**
November 11-13. Scottsdale Sheraton Hotel. Sponsor: Good Samaritan Medical Center and Institute for Rehabilitation Medicine. Contact: Jean Smith, Institute of Rehabilitation Medicine, 1111 East McDowell Road, Phoenix, AZ 85062. Approved for hour per hour Category 1 credit.

**Diagnostic Advances**
November 13. U. of A. Health Sciences Center. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education. Approved for 8 hours of Category 1 credit.

**Dean's Clinical Rounds**
November 16. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Urologic-Radiologic Diagnosis II**
November 19-21. Scottsdale, Arizona. Sponsor: Maricopa County General Hospital. Contact: Alex Newman, M.D., Maricopa County General Hospital, 2601 West Roosevelt, Phoenix, Arizona 85008. Approved for 22 hours of Category 1 credit.

**Annual Fall Pediatric Conference "Gastroenterology, Nutrition and Urology"**
November 20-21. Arizona Inn, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724 Approved for hour per hour Category 1 credit.

## DECEMBER

**Second Annual Critically Ill Child Symposium**
December 2-3. St. Joseph's Hospital & Medical Center, Cullen Auditorium, Phoenix. Sponsor: St. Joseph's Hospital and Medical Center, Department of Pediatric Education. Contact: Pediatric Education, St. Joseph's Hospital & Medical Center, 350 W. Thomas Road, Phoenix, AZ 85013. Approved for 11.3 hours of Category 1 credit.

**Pulmonary Medicine**
December 4. Ramada Safari Resort, Scottsdale. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education. Approved for 8 hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
December 14-16. St. Joseph's Hospital, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., & ArMA. Contact: John Raief, M.D., Emergency Room, St. Joseph's Hospital, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

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## 1983 CME CRUISE/CONFERENCES ON LEGAL-MEDICAL ISSUES

Caribbean, Mexican Riviera, Alaska, Mediterranean. Seven to 14 days in January, April, July, August. Seminars led by distinguished professors. Approved for 18-24 CME Category 1 credits. FREE ROUNDTRIP AIRFARE ON ALL CARIBBEAN, MEXICAN, ALASKAN CRUISES. Excellent group fares on finest ships. All conferences, scheduled prior to 12/31/80, conform to IRS tax deductibility requirements under 1976 Tax Reform Act. Registration limited. For color brochures and additional information contact:

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**Huntington Station, NY 11746**
**Telephone: (516) 549-0869**

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## CURRENT CONCEPTS IN PAIN MANAGEMENT

### January 8-14 and February 28-March 4, 1983

Guest may attend associated tax program (expenses deductible). $250 (Guest $100).

Contact: D. Berman, M.D.,
Program Director
Current Concept Seminars
3301 Johnson Street
Hollywood, Florida 33021
Telephone: (305) 989-6650

## ADOLESCENT/YOUNG ADUL MEDICINE

### February 23—March 1, 1983

Wailea Beach Hotel, Maui, Hawaii

Sponsored by Hurley Medical Cent Department of Continuing Medic Education, One Hurley Plaza, Fli Michigan 48504. 20 Hours. Telephor (313) 766-0142.

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## 1983

## JANUARY

**Dean's Clinical Rounds**
January 12. Arizona Health Sciences Cen Tucson. Sponsor: U. of A. College Medicine. Contact: Office of Continu Medical Education, U. of A. Health Scien Center, Tucson, AZ 85724. Approved for h per hour Category 1 credit.

**Skeletal Fixation of Fractures**
January 21-22. Arizona Health Scien Center, Tucson. Sponsor: U. of A. College Medicine. Contact: Office of Continu Medical Education, U. of A. Health Scien Center, Tucson, AZ 85724. Approved for h per hour Category 1 credit.

**Endocrinology**
January 22. U. of A. Health Sciences Cent Sponsor: U. of A. College of Medici Contact: Office of Continuing Medi Education, U. of A. Health Sciences Cent Tucson, AZ 85724. Approved for 8 hours Category 1 credit.

## FEBRUARY

**Musculoskeletal Problems**
February 12. Ramada Safari Resort. Spons U. of A. College of Medicine. Contact: Off of Continuing Medical Education, U. of Health Sciences Center, Tucson, AZ 857 Approved for 8 hours of Category 1 credi

**Fifth Annual International Cataract Surgery Symposium**
February 14-16. The Alamos Reso Scottsdale, Arizona. Sponsor and Conta The Eye Foundation, 525 N. 18th Street, 504, Phoenix, Arizona 85006.

**Neurological Symptoms**
February 17-18. Arizona Inn, Tucso Sponsor: U. of A. College of Medicir Contact: Office of Continuing Medic Education, U. of A. Health Sciences Cent Tucson, AZ 85724. Approved for hour hour Category 1 credit.

**9th Annual Frontiers in Ophthalmology**
February 17-19. Mountain Shadows Reso Scottsdale. Sponsor: St. Luke's Medic Center. Contact: Christine Campbe Medical Meeting Planner, St. Luke's Medic Center, 525 North 19th Street, Phoen Arizona 85006. Approved for hour per ho Category 1 credit.

# GASTROINTESTINAL AND BILIARY DISEASES

## October 2 and 3, 1982
## Desert Inn and Country Club
## Las Vegas, Nevada

Desert Springs Hospital presents its Fourth Annual Medical Symposium which will provide an update in recent advances in the evaluation and management of gastrointestinal and biliary diseases. Useful information for a contemporary physician to incorporate into his or her practice will be stressed.

**Guest Speakers:** **Avram M. Cooperman, M.D.**
Professor of Surgery
New York Medical College
Valhalla, New York

**Ernest J. Ring, M.D.**
Professor of Radiology in Surgery
University of Pennsylvania
Hospital of the University of Pennsylvania
Philadelphia, Pennsylvania

**Michael V. Sivak, Jr., M.D.**
Cleveland Clinic
Department of Gastroenterology
Cleveland, Ohio

**Johnson L. Thistle, M.D.**
Professor of Medicine
Mayo Medical School
Rochester, Minnesota

**Fee:** $150 covers the cost of instruction, materials, three meals and all breaks.

**Accreditation:** The Nevada State Committee on Continuing Medical Education has approved the symposium for eleven (11) hours of Category I CME credit. Eleven (11) credit hours have also been approved by the American Academy of Family Practice and the Nevada State Board of Nursing.

For course registration and information, contact Stephen A. Kollins, M.D., c/o Medical Education, Desert Springs Hospital, Box 19204, Las Vegas, NV 89119 (702) 369-7662

**Desert Springs Hospital**

**Emergency Care Update -V**
February 28-March 2. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

## MARCH

**Changes & Controversies in Pediatrics**
March 3-6. Marriott Hotel, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Sixth Annual Mid-Winter Symposium in OB/GYN**
March 9-11. Scottsdale Hilton Hotel, Scottsdale. Sponsor: Marciopa County General Hospital and Phoenix OB/GYN Society. Contact: Secretary, Phoenix OB/GYN Society, 3412 N Fourth Ave. Phoenix, Arizona 85013. Approved for 14 hours of Category 1 credit.

**4th Annual Sports Medicine Symposium**
March 10-12. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Arizona Chest Symposium**
March 24-26. Doubletree Hotel, Tucson. Sponsor: U. of A. Health Sciences Center. Contact: Sandy Younker, R.N., Chest and Allergy Clinic, Tucson Medical Center, P.O. Box 42195, Tucson, AZ 85733. Approved for hour per hour Category 1 credit.

**Dermatology**
March 26. Arizona Health Sciences Center. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Dean's Clinical Rounds**
March 30. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doctors Hospital, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Phoenix Psychiatric Council. Contact: James E. Campbell, M.D., 5051 N. 34th St., Phoenix, AZ 85018. Approved for 2 hours Category 1 credit.

**Flexible Sigmoidoscopy**
**A course for the primary care physician**

Friday and Saturday, November 5 & 6, 1982
at the Scottsdale Sheraton Resort, Scottsdale.

The two-day program will include presentations on the role of flexible sigmoidoscopy in cancer surveillance, the diagnosis of colon lesions, patient preparation, examination techniques, and equipment maintenance. The Saturday practicum session with patients will be held at St. Luke's Hospital.
The program has been approved for 8 hours of Category 1 CME credit.

**Sponsored by the Department of Gastroenterology at St. Luke's Medical Center, Phoenix.**

**For additional information, contact:**

Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center, 525 North 18th Street
Phoenix, Arizona 85006
(602) 251-8402

**Monthly Meeting of Tucson Radiologists**
Last Tues. of month. Plaza International, Tucson, AZ. Sponsor: U of A Medical Center, Dept. of Radiology. Contact: Irwin M. Freundlich, M.D., U of A Health Sciences Center, Dept. of Radiology, Tucson, AZ 85724. Approved for 2 hours Category 1 credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix: 1st Tues.—Phoenix Indian Hospital, 2nd Tues.—Maricopa County Hospital, 3rd Tues.—Good Samaritan Hospital, 4th Tues.—St. Joseph's Hospital. Sponsor: Maricopa County Hospital (Phoenix Hospital's Affiliated Pediatric Program). Contact: J. Kipp Charlton, M.D., 2601 E. Roosevelt, Phoenix, AZ 85008. Approved for 1 hour per session Category 1 credit.

**Review of Forensic Pathology**
**Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,0
Phoenix, AZ 85064. Contact: Ravi Koop
M.D.

**Clinical Conference**
**Cardiovascular Medicine**
Third Tues., 5:15 p.m., second fl
classroom

## ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 850
Contact: Arnold L. Kendall, M.D.

**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. R
Contact: Dr. Conger & Staff

**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Servic
Bldg., Conf. Rm.

**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. Co
Rm.

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## BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St Joseph's Hospital & Medical Center. Contact. John R. Green, M.D. Approved for 1 hour Category 1 credit.

**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.

**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9.15 a.m., on first and third and fifth, Eighth Floor Conference Room.

**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurology conference room.

**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.

**Neuropathology of Gross Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.

**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conference Rm.

**Neuropathology or Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conference Rm.

**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference Rm.

**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, ED.D., Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, July, Sept. & Nov.

**Tumor Board**
Last Thursday of the month, 12 Noon, Educ. Center Classroom I & II, May, July, Sept, & Nov.

**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: T. F. Reid, Jr., M.D. Approved for Category 1 credit.

**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for Category 1 credit.

**CME Programs**
Weekly Tuesday, 7 p.m., Cafeteria-West End.

**Clinical Conference — Dept. of Medicine**
Weekly, Thurs., 12:30-1:30 p.m. Buffet Lunch, Grande Rm.

**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.

**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2

## DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.

**Physicians Continuing Education Program**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Sept. and December) Contact: R. Grossman, M.D

**Surgical Department Meeting**
3rd Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N Beaver Street, P.O. Box 1268, Flagstaff AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.

**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.

**Clinical Conferences**
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.

**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf. Rm.

**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf. Rm.

## GOOD SAMARITAN HOSPITAL

1033 East McDowell Rd., Phoenix, AZ Contact: W. J. Howard, M.D. Approved for Category 1 credit.

**Anatomical Path. & Cytology**
Weekly, Mondays 4:00-5:00 p.m., S-4 Conf Rm.

**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., West Rm

**Monday Noon Conference**
Weekly, Monday, 12:00-1:00 p.m. R-2 Conf. Rm.

**Mortality/Morbidity, Surgery Comm.**
2nd Monday, 11:30-2:00 p.m., West Rm.

**Obstetrical Section Conference**
1st Monday, 12:30-1:30 p.m., West Rm.

**Pulmonary Disease Grand Rounds**
Weekly, Monday, 12:00-1:00 p.m., D-5 North

**Family Practice Conference**
Weekly, Tuesday, 12:00-1:00 p.m., Fam. Practice Conf. Rm.

**Pediatric Grand Rounds**
3rd Tuesday, 7:30-8:30 a.m., Contact. Paul Bergeson, M.D.

**Phoenix Plastic Surgery Residency Conference**
Weekly, Tuesday, 5 p.m.-6 p.m., Education Building, Contact. Robert McGregor, M.D.

**PM & R Noon Inservice**
2nd & 4th Tuesday, 12 Noon, R-2 Conference Rm.

**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., West R
Contact: John A. Bruner, M.D.

**Combined Cardiovascular & Family Practi
Conf.**
Ist, 2nd, & 4th Wed., 12:00-1:00 p.m., 
North.

**Learning Disabilities**
Weekly, Wednesday, 10:30-12:30 p.m., 
Conf. Rm.

**OBGYN Dept. Review & Statistics**
Weekly, Wednesday, 12:30-3:00 p.m.
OBGYN Conf. Rm.

**Gynecological Pathology**
Weekly, Thursday, 1:00-2:00 p.m., S-4 Co
Rm.

**GI Radiology Conference**
1st Thursday, 12:00-1:00 p.m., F1
Radiology Conf. Rm.

**Phoenix Ultrasound Soc. Meeting.**
2nd Thursday, Medical Education Buildi
Contact: Dr. Ben Ora

**Surgical Grand Rounds**
Weekly, Thursday, 7:00-8:30 a.m., Educati
Building, Contact: Dr. Gilsdorf

**Tumor Treatment Planning Conf.**
2nd & 4th Thursdays, 12:00-1:00 p.m., F1
Radiology

**Joint Tumor GYN Conference**
2nd Friday, 12:30-1:30 p.m., West Rm.

**Medical Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., West Rm.

**Neuropathy Conference**
Last Friday, 1:15-2:15 p.m., S-4 Morgue.

**Neurology Grand Rounds**
Weekly, Friday, 12 noon, Amphitheat
Contact: Dr. Hendin, M.D.

**Psychiatry Grand Rounds**
Weekly, Friday, 11:00-12:00 noon, East R

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Conta
Eric C. Ramsay, M.D., Approved for Catego
1 credit.

**Medical Conference**
Weekly, Monday, 12:30 p.m., Contact: Ch
Medical Resident.

**Surgical Conference**
Weekly, Monday, Contact: R. Fischer, M.

**OB/GYN Pathology Conference**
Weekly, Thursday, (except 2nd) 1:30 p.
Contact: J Wurzel, M.D.

**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jo
Santiago, M.D.

**Medical Conference**
Weekly, Friday, 12:30 p.m., Contact: Chi
Medical Resident

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 850

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Co
ference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Co
ference Rms.

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# The Physician's Sleep Glossary

## Some common sleep laboratory terms

**poly•som•no•graph.** An instrument which simultaneously records by electrodes physiological variables during sleep—for example, brain activity (EEG), eye movements (EOG), muscle tonus (EMG) and other electrophysiological variables. These readings indicate precisely when patients fall asleep, how many wake periods they experience, the quality of sleep and the duration of sleep.

**sleep la•ten•cy.** The period of time measured from "lights out," or bedtime, to the commencement or onset of sleep.

**wake time af•ter sleep on•set.** Intervals of time spent awake between onset of sleep and the end of the sleep period. The polysomnograph registers the length and frequency of the intervals.

**to•tal sleep time.** The amount of time actually spent in sleeping. This is estimated by subtracting wake times from the period encompassed by the onset and the termination of sleep.[1]

**REM/NREM.** 1. REM, or rapid eye movement, sleep is "active"—characterized by increased metabolic rates, elevated temperature and arousal-type EEG patterns. 2. NREM, or nonrapid eye movement, sleep represents "quiet" sleep stages. There are four distinct stages of NREM sleep.[2]

**re•bound in•som•nia.** A statistically significant worsening of sleep compared to baseline on the nights immediately following discontinuation of sleep medication.[3]

**Efficacy objectively demonstrated in the sleep laboratory—the most valid environment for measuring hypnotic efficacy.**

In numerous sleep laboratory investigations patients fell asleep sooner, slept longer and woke up less during the night[3-12] with

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The efficacy of Dalmane has been studied in over 200 clinical trials with more than 10,000 patients.[3-15] During long-term therapy, which is rarely required, periodic blood, kidney and liver function tests should be performed. Contraindicated in patients who are pregnant or hypersensitive to flurazepam.

Please see summary of product information on following page.

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**References:** **1.** Williams RL, Karacan I: Introduction, chap. 1, in *Sleep Disorders: Diagnosis and Treatment*, edited by Williams RL, Karacan I, Frazier SH. New York, John Wiley & Sons, 1978, p. 2. **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Kales A *et al*: *JAMA 241*:1692-1695, Apr 20, 1979. **4.** Kales A *et al*: *J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **5.** Kales A. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **6.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al*: *Behav Med 5*(10):25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **14.** Kales A, Kales JD: *Pharmacol Physicians 4*(9):1-6, Sep 1970. **15.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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## MARICOPA COUNTY GENERAL HOSPITAL

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.

**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.

**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.

**OB/GYN Dept. Grand Rounds**
Weekly Tuesday, 12 Noon, Santa Cruz Room

**Obstetrical Problem Conference**
Weekly, Tuesday, 7:30 a.m., Yavapai Rm.

**Orthopedic Conference**
Weekly, Tuesday, 7:30 a.m., Santa Cruz Rm.

**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.

**Urology Discharge Planning Conference**
Weekly, Tuesday, 11:30 a.m., Station 42

**Hand Surgery Conference**
Weekly, Wednesday,7:30 a.m., Santa Cruz Rm.

**Neurosurgery Discharge Planning**
Weekly, Wed., 1:30 p.m., Station 42.

**OB/Neonatology Seminar**
Weekly, Wed. 7:30 a.m., Yavapai Rm.

**Clinical Psychiatric Conference**
Weekly, Wed., 11-12 p.m., Mental Health Annex, Rm. 1346.

**Surgery Conference**
Weekly, Wed., 7-8 a.m., Surgical Dept.

**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.

**Cardiology Conference**
Weekly, Thurs., 2 p.m., Santa Cruz Rm.

**OB/GYN Resident Conference**
Weekly,Thurs., 12 p.m., Yavapai Rm.

**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Rm.

**OB/GYN Surgical Pathology Conf.**
Weekly, Friday, 7:30 a.m., Yavapai Rm.

**Orthopedic X-Ray Conference**
Weekly, Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: E. John Wickman, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015. Contact: J. Burr Ross, M.D., Approved for Category 1 credit.

**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.

**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for Category 1 credit.

**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.

**Clinical Staff Teaching Conference, Rm. A.**
Weekly, Wednesday, 7:30-8:30 a.m.

**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact. N Wendell Tood, M.D.

**Family Practice/Emergency Room Teaching Conference**
Thursday, Weekly, 7:30-8:30 a.m., Conf. Rm. A. Contact. Drs. L. Fairbanks & E.Y Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.

**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.

**Clinical Conferences**
Weekly Tuesday, 12:30 p.m., Kiva Conference Rm.

**Psychiatric Clinical Conference**
2nd Friday, 11:30 a.m., B-Wing Conf. Rm., Contact: Medical Staff Secretary

**Tumor Board Conference**
Weekly Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.

**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge

**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge

**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge

**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge

**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge

**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge

**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge

**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge

**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge

**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lounge

**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lounge

**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lounge

**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ. Contact: Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly, Monday, 12:15 p.m., Auditorium

**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditorium

**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium

**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium

**Cardiovascular-Thoracic Record Review**
3rd Wednesday, 12:15 p.m., Auditorium

**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips Auditorium

**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium

**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium

**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium

**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium

## ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703. Contact: see below.

**Monthly Specialty Conference — Dept. of Surgery**
1st Monday, 7:30 a.m., Century Rm. A., Contact: Med. Staff Office.

**Grand Rounds: Medical Surgical, Family Practice, Pathology, Radiology**
Weekly, Thursday

**Emergency Medicine Lectures**
Weekly, Thursday, 8 a.m., Century Rm. A.

**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm. A.

**Cardiology Conference**
Weekly, Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.

**Genetics Conference**
Weekly, Monday, 12:30 p.m., Pediatric Department.

**Pediatric Rounds**
Weekly, Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.

**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.

**ECG Conference**
Weekly, Tuesday, 12:30 p.m., Pediatric Department.

**Medical Grand Rounds**
Weekly, Wednesday, 8 a.m., 1st Floor Conf. Room.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 8 a.m., PIMC

**Visiting Professor Informal Presentation**
Weekly, Thursday, 9:30 a.m., 1st floor Conf. Rm.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 12:30 p.m., PIMC

**Nephrology Conference**
Weekly, Fridays, 12:30 p.m., Pediatric Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contact. Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact Wm. Moteforte.

**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact. Kim Sowards.

**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.

**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contac Salmon, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716. Contact: Eric G. Ramsay, M.D. Approved Category 1 credit.

**Cardiology Conference**
Weekly, Monday, except last, 12 No Contact: M. Maximov, M.D.

**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. Mi M.D.

**Endocrinology Conference**
Last Monday, 12 p.m., Contact M. Par M.D.

**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Lohr M.D.

**Surgical Dept. Conference**
2nd Monday, 12 Noon: Contact: C. P Crowe, Jr., M.D.

**Chest Conference**
1st Tuesday, 12 noon, Contact: Will Nevin, M.D.

**Hematology Conference**
4th Tuesday, 12 Noon, Contact: M. Bo M.D.

**Infectious Disease Conference**
3rd Tuesday, 12 noon, Contact: B. Friedm M.D.

**Nephrology Conference**
2nd Tuesday, 12 noon, Contact: Dr. Selt.

**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay K M.D.

**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact: Lightner.

**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Fo M.D.

**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Fuchs.

**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, J & Oct. Contact: C. Mangelsdorf, M.D.

**Medical Conference**
Weekly, Wednesday, 8:00 a.m., Contact: Fuchs, M.D.

**Neurology-Neurosurgery Conference**
Weekly, Wednesday, 12 noon, Contact: H Buschsbaum, M.D.

**Dermatology Conference**
1st Thursday, 12 noon, Contact: R. Friedm M.D.

**Neuroradiology Conference**
Weekly, Thursday, 5:00 p.m., Contact: Komar, M.D.

**Tumor Conference**
Weekly, Thursday, 12 noon, Contact: Can Committee.

**Pulmonary/Infectious Disease Case Conference**
2nd Thursday, 7:30 a.m., Contact: Willi Nevin, M.D.

**G—I Conference**
Weekly, Friday, 12 noon, Contact: Geo Kerrihard, M.D.

**Interhospital Nuclear Medicine Conferen**
Weekly, Friday, 7:15 a.m., Contact: S.V. Hi M.D.

**GYN Conference**
riday, 7:30 a.m., Contact: Charles Parker,

**GYN Pathology Conference**
riday. 7:30 a.m., Contact: R. Spark, M.D.

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treet and Indian School Road, Phoenix, 5012. Contact: Alfred Heilbrunn, M.D. oved for Category 1 credit.

**cal/Surgical GI Conference**
3rd Monday, 3 p.m., Rm. 3134, Contact: ozarek, Ext 413. Dr. Mertz, Ext 493.

**opedic Surgery Conference**
Monday, 7:30 a.m., Rm 3134, Contact: Dr. o.

**ery - Pathology Conference**
londay, 4:00 p.m., Rm 3134, Contact: Dr. z & Dr. Lanard.

**ular Conference**
Monday, 3 p.m., Rm. 3134, Contact: Dr. ora

**rand Rounds**
ly, Tuesday, 1 p.m., Contact: Drs. wski, Kozarek, after GI Grand Rounds, T-5.

**adiology Clinical**
**elation Conference**
nd 3rd Tuesday, 12:00 noon, Rm. T-5, act: Dr. Sanowski.

**athology Conference**
and 4th Tuesday, 12:00 noon, Rm. T-5, act: Dr. Sanowski.

**estaff Pulmonary Disease Teaching**
.
ly, Wed., 12:30-1:30 p.m., Rm. 4115, act: Dr. Rohwedder, Ext. 388.

**er Symposium**
nd 3rd Thursdays, 3 p.m., Rm. 3134, act: Dr. Byrne

**iology Conference**
Thursday, 1 p.m., Room T-5, Contact: Dr. ozedeh

**cal Surgical Chest Conference**
3rd Thursday, 12:30 p.m., Rm. 4115 act: Dr. Rohwedder.

**cal Service Grand Rounds**
nd, 3rd. & 5th, Fridays, 11 a.m., Rm. T-5, act: Dr. Zeller

**cal Mortality Conference**
riday, 11 a.m., Room T-5, Contact Dr. r

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cott, Arizona 86313. Contacts listed v. Approved for Category 1 credit.

**cal Rounds**
3rd Thursdays, 10:00 a.m.-2:30p.m.

**ical Rounds**
hursday, 10 a.m.-2:30 p.m.

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South Sixty Ave., Tucson, AZ 85723. acts listed below. Approved for gory 1 credit.

**cal Surgical Chest Conference**
ly, Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly, Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Conf.**
Weekly, Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly, Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.

**Radiology Conference**
1st Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Tuesday, 6:30 p.m.

**Pathology Conference**
4th Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Wednesday, 7:00 a.m.

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**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.

**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly, Thursday, 4-5 p.m., Room 5403.

**Anesthesiology Case Discussion**
Weekly, Wed., 7:00 a.m., AHSC, Dining Rm. C&D.

**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.

**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center.

**Cardiac Catheterization Conference**
Weekly, Friday, 4:00 p.m., Contact: Dr. Temkin.

**Cardiology Research Conference**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn.

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505. Contact: Jerry Goldstone, M.D., Dept. of Surgery.

**Dermatology Conference**
4th Monday, 5:15 p.m., AHSC, Contact: Dr. R. Friedman.

**Dermatology Rounds**
Weekly, Wed., 11:30 a.m., Contact: Dr. Lynch.

**Endocrinology Seminar**
Weekly, Thursday, 12-1 p.m., Contact: Dr. Johnson.

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contact: Dr. Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus.

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter.

**Head & Neck Tumor Management Conference**
Weekly, Wed., 4:00 p.m., Contact: Dr. Manning.

**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.

**Medical Grand Rounds**
Weekly, Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.

**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contacts: Drs. Hughes & Alcorn.

**Neuromuscular Disease Conference**
Weekly, Friday, 11:30 a.m., Contact: Dr. Stern.

**Neuropathology Case Review**
Weekly, Friday, 8:30 a.m., UAHSC, Dr. P. Johnson.

**Neuroradiology Conference**
Weekly, Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson.

**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.

**Neurosciences Seminar**
Weekly, Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford.

**Nuclear Medicine**
Weekly, Thursday, 7:30 a.m., AHSC Radiology Conference Rm.

**OB/GYN Lectures**
Weekly, Friday, 1 p.m., AHSC, Contact: Dr. C.D. Christian.

**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler.

**Ophthalmology Retina Fluoro. Conference**
Weekly, Thursday, 5 p.m., AHSC, Contact: Dr. H. Cross.

**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.

**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.

**Pathology Conference**
Weekly, Monday, 12 noon, AHSC, Contact: Dr. C.D. Christian.

**Pathology Seminar**
Weekly, Friday, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley.

**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.

**Pediatric Grand Rounds**
2nd, 4th & 5th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.

**Pediatric Problem Patient Conference**
Weekly, Wed., 8:00 a.m., Contact Dr. Lillian Valdes-Cruz.

**Pediatric Research Forum**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Otakar Koldovsky

**Pediatric Specialty Conference**
Weekly, Friday, 8:00 a.m., Contact: Dr. Marilyn Heines & Jane Ruggill.

**Psychiatric Grand Rounds**
Weekly, Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium.

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact. Dr. Alan Levenson, Palo Verde Hospital.

**Pulmonary Rounds**
Weekly, Friday, 11:30 a.m., Contact. Dr. Benjamin Burrows.

**Chest Radiology**
Weekly, Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly, Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly, Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly, Thursday, 12:00 noon, AHSC, Contact. Dr. Freundlich.

**Radiology-Rheumatology Conference**
Weekly, Thursday, 7:45 a.m., UAHSC, Library Rm. 1535C.

**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact. Dr. Nagle.

**Resident's Noon Conference**
Weekly, Tuesday & Thursday, 12:00 noon, AHSC, Contact: Dr. A. Greensher.

**Resident's Conference**
Weekly, Wed., 5-6 p.m., Diag. Radiology Conf. Rm.

**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AH
Contact: Dr. Wangensteen.

**Surgical Morbidity & Mortality Conferen**
Weekly, Wed., 8:00 a.m., Contact: Wangensteen.

**Trauma Conference**
Thursday, 4:00-5:00 p.m., AHSC, Rm. 55

**Toxicology Conference**
Weekly, Tuesday, 8:00 a.m., Contact: Keith Likes.

**Tucson Ultrasonography Group**
Weekly, Wed., 4:30 p.m., AHSC, Contact. I. Freundlich.

**General Urology Conference**
Weekly, Tue. & Thurs., 12:00 noon, AHS
VA Hospital Contact: Dr. G.W. Drach.

**Vascular Surgery Conference**
Weekly, Tuesday, 4-6 p.m., AHSC, Cont.
Dr. J. Goldstone.

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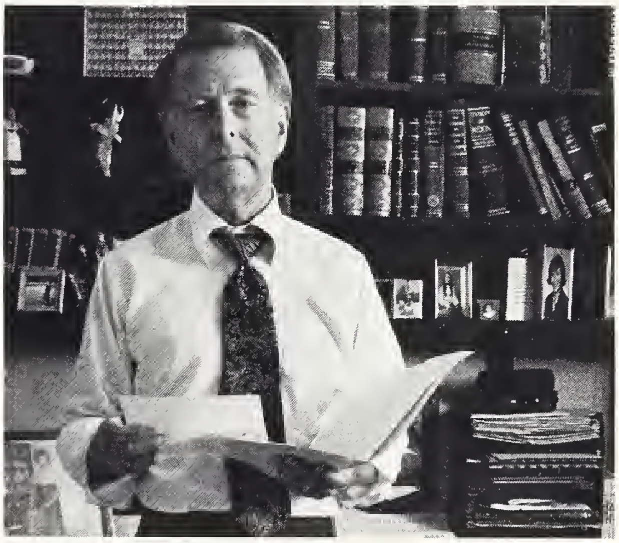

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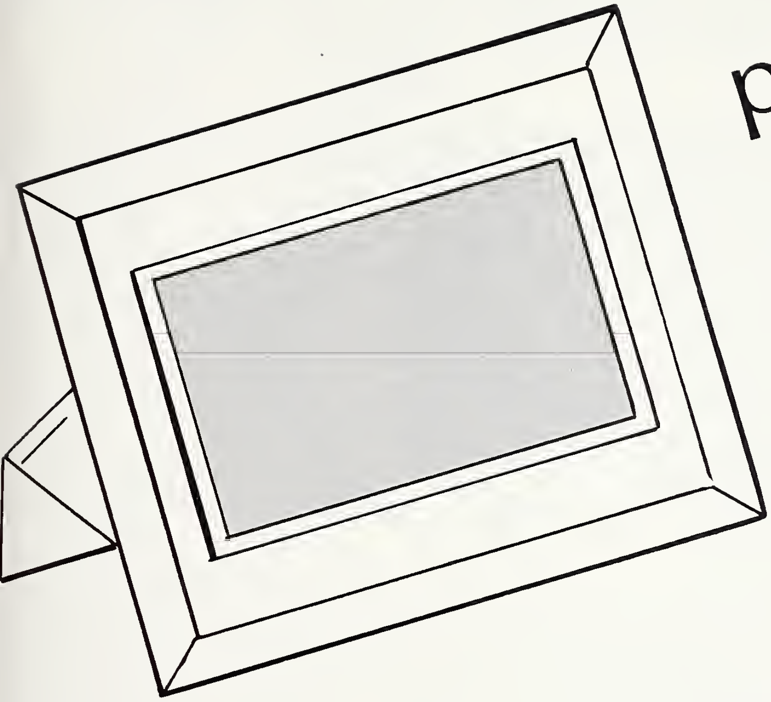

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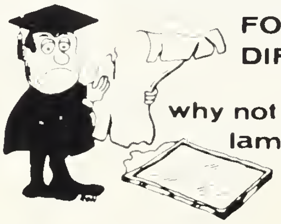

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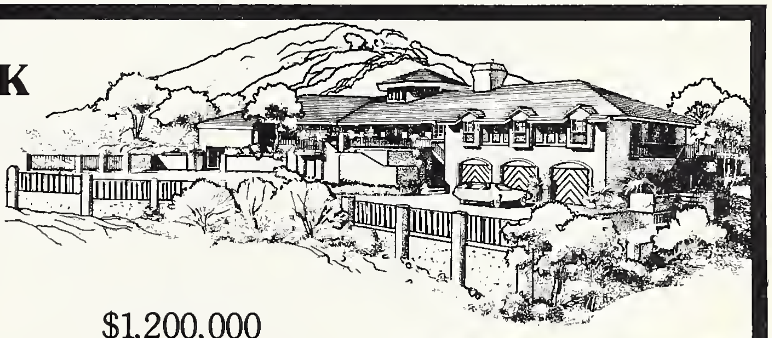

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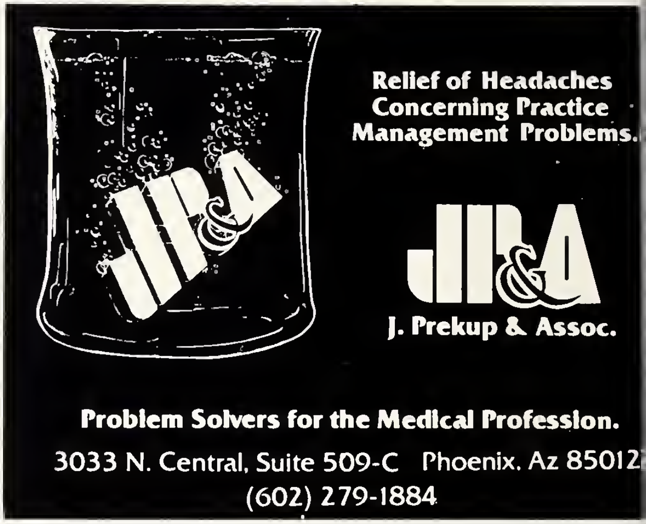

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# ARIZONA MEDICINE

SSN 0004-1556)

JOURNAL OF ARIZONA MEDICAL ASSOCIATION

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

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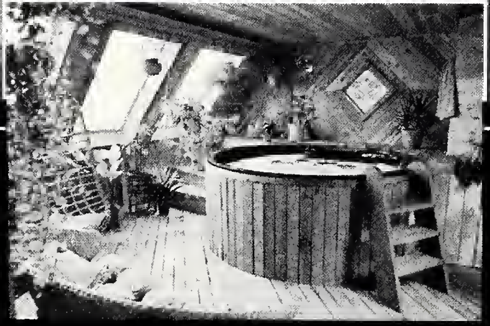

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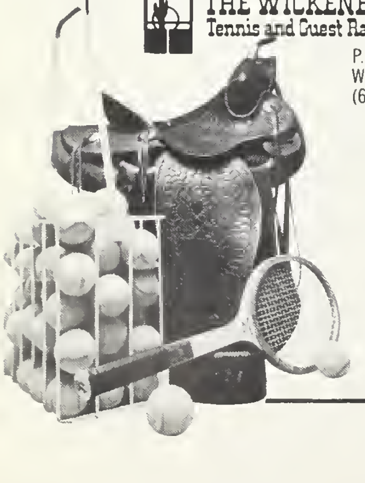

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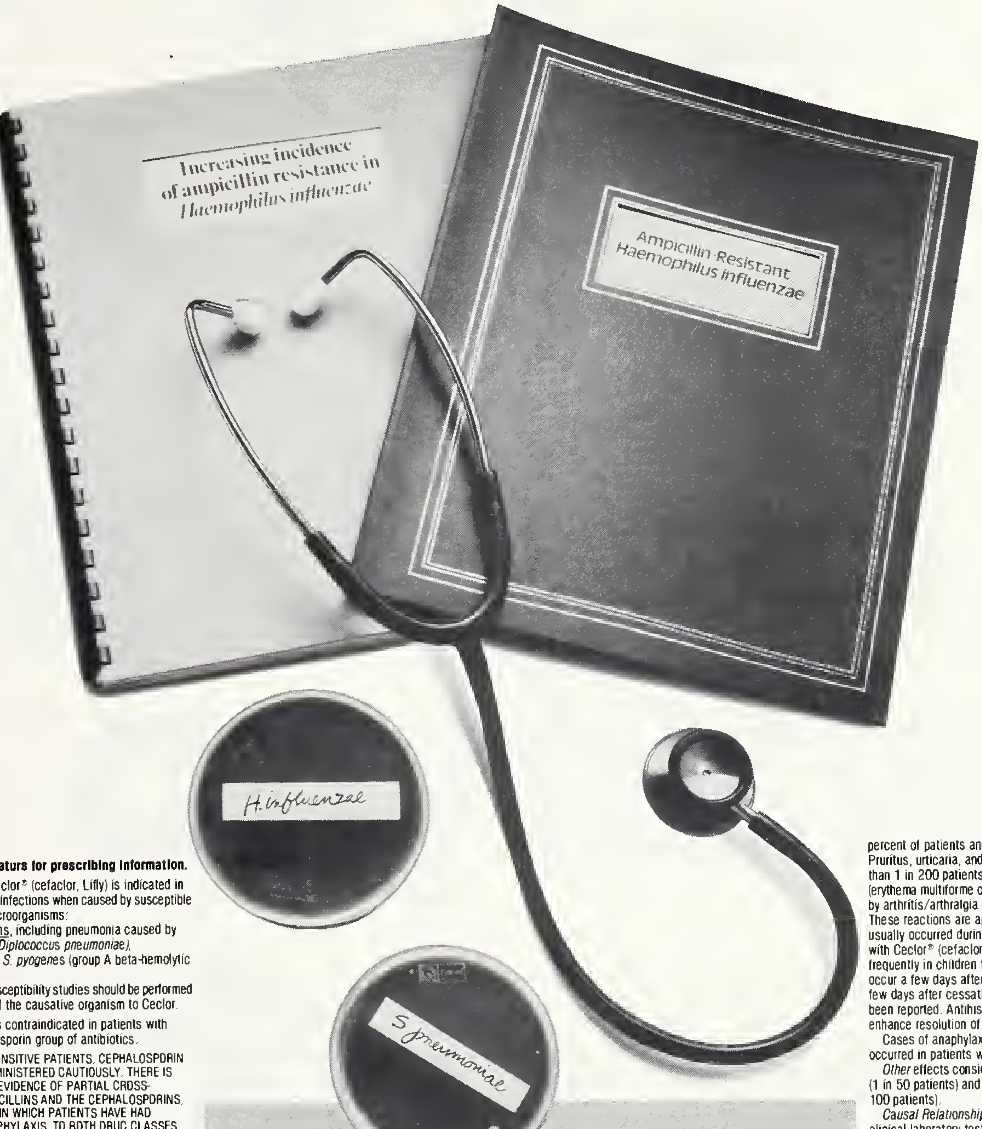
# An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin-Resistant Haemophilus influenzae
H. influenzae
S. pneumoniae

**Brief Summary.**
**Consult the package literature for prescribing information.**

**Indications and Usage:** Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

**Contraindication:** Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

*Usage in Pregnancy*—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

*Usage in Infancy*—Safety of this product for use in infants less than one month of age has not been established.

**Adverse Reactions:** Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

*Gastrointestinal* symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor.

*Hypersensitivity* reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281R]

**Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]**

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

*Note.* Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

**References**

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8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

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*Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.*

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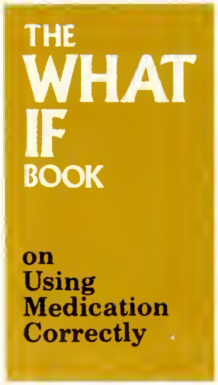

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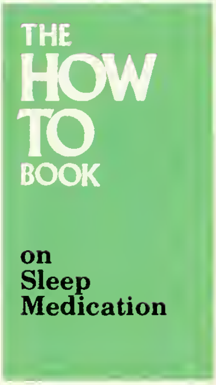

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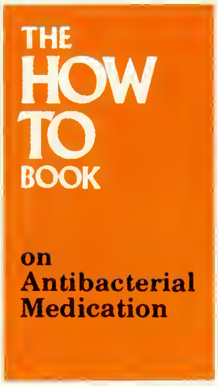

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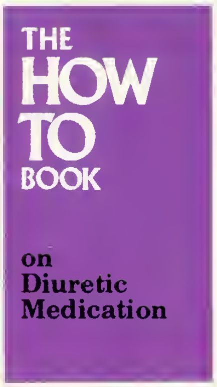

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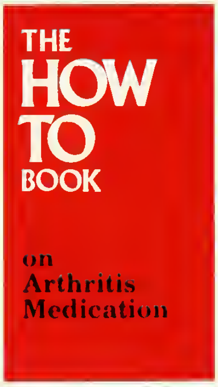

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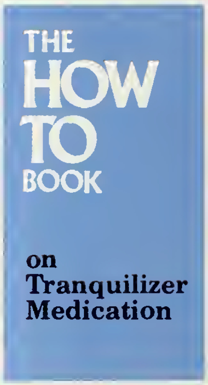

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*Cardiology*

# A Case for Hospital Discharge Within 24 to 48 Hours After Initial Transvenous Pacemaker Implantation

## (Ventricular and Atrioventricular Mode)

Albert F. Olivier, M.D., F.C.C.P.

Editor:
Kenneth B. Desser, M.D.

Since the introduction of cardiac pacing in the treatment of bradyarrhythmias, the pacemaker companies have continued to improve on the design and quality of both their pacemaker generators and electrodes. In place of the short-lived mercury-zinc power cells have come the lithium batteries and better integrated circuits to prolong the life of the generator and lessen the rate of pacemaker replacement. To minimize the incidence of lead dislodgement, obtain a better interface with the myocardium, and assure a secure fixation to the endocardium, transvenous electrodes with new terminal tips became available and bore descriptions like tined (ring or blunt), porous tined, cylindrical, spherical, helifix, barbed, balloon tipped, tined and endocardial corkscrew.[1-6] Some salient claims for these leads have been firmer endocardial attachment, trabecular anchorage and endocardial fibrosis to the electrode tip. With greater proficiency and experience among pacemaker implanters, the rate of electrode dislodgement has decreased from previously acceptable 20% to less than 5%.[7-9] Noti fewer complications attendent with initial transvenc pacemaker insertion and patient management, a considering the lesser use of hospital beds in light present high cost of medical care, the prospective surv was begun to study the stability of both the electrode and the patient when requested to be mobile within 9 18 hours and when discharged from the hospital witl 36 to 48 hours after implantation.

**Materials and Methods**

In a 25 month period (October 1979 to Decemb 1981), 19 patients comprising eight males and elev females have been followed for problems direc related to the electrode lead. Age distribution v between 66 and 95 years. All patients expressed one three symptomatic arrhythmias—bradycardia, sir arrest, and third degree A-V block. Only tined leads unipolar or bipolar type were used with the pacemal in the ventricular mode (4 patients) or atrioventricu mode (15 patients). All procedures were carried out the author. Patients were monitored for 14 to 30 ho

---

From: Desert Samaritan Building Phase II, 1500 South Dobson Road, Suite 215, Mesa, Arizona 85202.

ter surgery. Temporary pacemakers were removed ero to 14 hours after surgery; ambulation was not lowed when both temporary and permanent leads ere in the heart. Three to eighteen hours ostoperatively, patients were ambulated for 25 to 50 rds; if well tolerated, ambulation progressed until ey walked at least 150 yards three or four times in the ext 10 to 18 hours. All individuals were discharged ithin 24 to 48 hours postoperatively. All patients were en within a week after discharge and followed onthly for the first three months, then quarterly. In a 1 24 month follow-up, no patients developed omplications related to the pacemaker (except one, see iscussion) or the electrodes; no problems arose as a sult of early ambulation, and all patients remained tive within the limits of their health and lifestyle.

**iscussion**

Since the advent of the transvenous electrode in 1962, ad dislodgement with its resultant complications had unted the progress of the pacing systems. Its ccurrence, bordering 20% to 25%, brought about a reference for myocardial implantation via a oracotomy. Despite the use of varied myocardial ads, discontent for the thoracic approach was reported ecause of greater incidence of atealectasis, pneumonia d problems with poor sensing, lead tip fractures, yocardial perforation and exit block.[9] Concurrently, any pacemaker companies were introducing leads anufactured to prevent lead dislodgement. As a result these new designs, and the increasing experience of e implanter, lead displacement in many institutions egan to decline.

Dislocation and migration of electrodes still remain e most common source of complications in transnous pacemaker insertion; it most often occurs within e first four weeks. Causes vary from inexperience of e implanter and poor initial placement to a dilated ght ventricular chamber.[3] With dislodgement, one may ve loss of capture, exit block and cardiac arrest. With igration and sometimes close proximity of the tip to a ncardiac site, one may have abberant stimulation of e diaphragm,[10] the phrenic nerve,[11] the intercostal uscles,[12] and the shoulder girdle,[13] all of which may cur within hours or months after insertion. Unusual oblems have been sensory induced epilepsy,[14] focal otor seizures in the leg,[15] and recurring pulmonary nbolism.[16] Other less frequent mishaps include yocardial perforation and cardiac tamponade, widdler's syndrome"[5] (rolling the generator within its ocket to cause dislodgement), hematoma, premature ntricular beats, and pulmonary air embolism. Finally, se 16 displayed abberant diaphragmatic stimulation weeks post-implantation, especially when she sumed the left decubitus position. During the operation and with the use of fluoroscopy, the eviously placed right ventricular electrode was used to cit diaphragmatic "kicks" at 4.2 volts or more. The old cemaker was replaced by a Pacesetter Programmalith 221-6, whose voltage was decreased to 2.5 volts to decrease diaphragmatic excitation, pulse width increased to 1.6 msec. to provide a greater margin of safety for capturing, and the rate reprogrammed to 85 beats per minute to completely overdrive multiple ventricular contractions. She was discharged less than 24 hours later.

**Summary**

The factors considered in this study are the objectives of some of the newer electrodes, and the complications of electrode dislocation. The goal is to establish a shorter period of inactivity and an earlier routine discharge after initial transvenous pacemaker insertion. Nineteen patients underwent the procedure without lead complications, and were released within 24 to 48 hours. These cases served as the basis for future clinical survey in more expeditious ambulatory recovery, conservation of hospital beds, and their consideration to low cost of medical care. It is hoped that the newer electrodes, especially the tined leads, will provide the pacemaker implanter a greater margin of safety from lead dislodgement and a high level of confidence in his quest to establish an earlier, but safe and satisfactory discharge time.

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## Editorial Comment

Kenneth B. Desser, M.D.

Early discharge after pacemaker implantation for advanced A-V block, disorders of sinoatrial impulse formation and sustained ventricular arrest during atrial fibrillation appears to be safe. Obviously the duration of postinsertion hospital stay should be considered in the context of associated disease states. Congestive heart failure, bradycardia dependent ventricular arrhythmias, possible myocardial infarction and unstable angina pectoris represent examples of clinical settings where the influence of pacing mandates longer postoperative observation. There appears to be some controversy regarding indications for pacemaker insertion. A prominent cardiologic sage recently cited the lower incidence of permanent pacemaker insertion in some European countries when compared to the United States. It is noteworthy that these countries are frequently the same ones where patients with severe acute neurologic disorders must be transported long distances because there are limited numbers of C.T. scanners. There is some literature which supports the contention that most patients with bradyarrhythmias will survive their first episode of syncope and this has been proposed as a guide for the "wait and see" attitude. Most Americans would not cherish this approach.

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Seminars in
Dermatology

# Dermatophytes in Tucson, Arizona, 1967 to 1981

James T. Sinski, Ph.D.

Editors:
Ronald C. Hansen, M.D.
Robert A. Schwartz, M.D.

### Abstract

A survey of dermatophytes from patients seeki
medical attention was made from 1967 to 1981. The m
frequently isolated dermatophyte was *Trichophyt*
*rubrum*. The second most frequently isolated fun
pathogen in this Tucson survey was *Microsporum* ca
The latter organism was responsible for the majority
tinea capitis cases in children. No isolations of
a*udouinii*, formerly the most frequently isolated cau
of tinea capitis in the United States, have been made
Tucson during this entire period.

Although it may not represent the true incidence
this dermatophyte in the Tucson population,
*mentagrophytes* was the third most frequently isolat
organism. *Trichophyton tonsurans, Epidermophyt*
*floccosum* and *M. gypseum* are isolated much l
frequently but on a regular basis. Both *M. gypseum* a
*M. fulvum* must be naturally growing in Tucson s
though these geophilic dermatophytes have only be
isolated from skin lesions of patients and not the s
directly. Winter visitors have been infected by
*verrucosum* that was isolated during their stay in Tucso
With increasing frequency, fungi have been isolat
from various forms of onychomycosis. Besides *T. rubru*
and *T. mentagrophytes, Aspergillus flavus, A. terre*
*Cepha-losporium, Fusarium* and *Scopulariopsis* ha
been isolated from various forms of onychomycosis.

Indexing Terms: Dermatophytosis *Trichophyto*
*Microsporum, Epidermophyton*

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**Dermatophytes — Tucson, Arizona (1967-1981)**

| ausal Organism | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *rubrum* | 38 | 49 | 43 | 41 | 31 | 68 | 83 | 54 | 66 | 31 | 62 | 30 | 44 | 21 | 31 |
| *. canis* | 33 | 39 | 16 | 20 | 21 | 24 | 33 | 28 | 9 | 14 | 10 | 9 | 7 | 5 | 14 |
| *mentagrophytes* | 19 | 17 | 19 | 13 | 12 | 17 | 19 | 12 | 18 | 2 | 12 | 3 | 12 | 6 | 5 |
| *floccosum* | 2 | 6 | 4 | 3 | 1 | 4 | 7 | 19 | 14 | 4 | 15 | 5 | 2 | 1 | 2 |
| *tonsurans* | 1 | 2 | 1 | 4 | 2 | 4 | 7 | 9 | 9 | 9 | 5 | 5 | 1 | 3 | 6 |
| *verrucosum* | — | 1 | — | 1 | 1 | — | — | 2 | 2 | — | — | — | — | — | — |
| *. gypseum* | 2 | 3 | 2 | 5 | 5 | 1 | 1 | 2 | 1 | 6 | — | — | 2 | 3 | 1 |
| *. fulvum* | — | — | — | — | — | — | 1 | 1 | — | — | — | — | — | — | — |
| *pergillus flavus** | — | — | 1 | — | — | — | 2 | — | — | — | — | — | — | — | — |
| *pergillus terreus** | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 |
| *ephalosporium** | — | — | — | 2 | — | — | — | 1 | 1 | — | — | — | — | — | — |
| *sarium** | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | 1 |
| *opulariopsis** | — | — | — | — | — | — | 1 | — | — | — | — | 1 | — | — | 1 |

= cause of onychomycosis

This is a continuation of the survey of dermatophytes olated in Tucson beginning in 1967. Isolations were ade from patients seeking diagnosis and treatment. ne years included in the present survey are 1967 to 1981.

**laterials and Methods**

The acquisition and preliminary processing was ssentially the same as that previously reported.[1,2] Media sed were Emmons' neutral Sabouraud's agar[3] plus ntifungal and antibacterial antibiotics in addition to ttman's ox gall agar (Difco Laboratories, Detroit, lichigan). To culture specimens from toe- or ngernails, the same Sabouraud's medium was used to hich only antibacterial antibiotic was added. No ntifungal antibiotic was added so that fungi of the enera *Aspergillus, Cephalosporium, Fusarium, enicillium* and *Scopulariopsis* could be grown. These ngi, in addition to the dermatophytes, have been olated from various types of onychomycosis.[4-6] To aid the identification of *Trichophyton rubrum*, potato- rrot agar was used to encourage sporulation of this xon.[7]

**esults**

The results of the survey are given in the Table. The umber of isolations now includes those made at this boratory and at the dermatologists' offices when uplicate samples were cultured. Thus, the figures for 967 and 1968 are different from those previously ported.[1,8]

The most often isolated dermatophyte continues to be *rubrum*. It is not known whether the incidence of this athogen is truly increasing in the population. The sults reported here represent only those patients eking diagnosis and treatment. To be able to state the ue incidence of the dermatophyte in a population, a ontrolled and complete survey would have to be ndertaken. Since 1960 this pathogen has been isolated ith greater frequency in the United States. Before that ate *T. mentagrophytes* was the most often isolated ermatophyte.[9]

Though *T. mentagrophytes* has been isolated in Tucson, the relative frequency when compared to isolation of *M. canis* is less than that found in other laboratories in the United States. Because *T. mentagrophytes* can be the cause of a minor case of tinea pedis which the individual may successfully treat, the patient may not seek diagnosis and treatment from a physician, and this would not be included in the results.

*Microsporum canis* is isolated more frequently in Tucson than in other cities of the United States that report dermatophyte isolations.[1] The incidence of this pathogen has remained constant in Tucson since 1967. This pathogen continues to be the most prominent cause of tinea capitis in Tucson. When it is the cause of tinea capitis, the patients are children under the age of nine. A few adults with tinea corporis caused by this pathogen have been seen, but no case of tinea capitis in adults caused by *M. canis* has been seen in Tucson.

Though *T. tonsurans* as the cause of tinea capitis has increased in the United States, this has not been found in Tucson. The incidence of this pathogen has remained relatively low and constant. This organism has been found to be the cause of tinea capitis, tinea corporis and tinea pedis in Tucson.

Isolations of *E. floccosum* and *M. gypseum* also have remained low but constant. It would appear that *M. gypseum* is a part of the flora naturally occurring in the soil of Tucson. No direct isolations from the soil have been made. A few cases of infection by this geophilic pathogen are isolated regularly in Tucson.

There has been an increased interest in onychomycosis in Tucson in the past years. In addition to infection of the nails by *T. rubrum* and *T. mentagrophytes*, the following have also been isolated: *Aspergillus flavus, A. terreus, Cephalpsporium, Fusarium* and *Scopulariopsis*.

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AM Medical Genetics

# Immunologic Markers in the Diagnosis of the Acute Lymphocytic Leukemias

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**Abstract**

Acute lymphocytic leukemia is not one disease, b rather a group of diseases. These diseases are mon clonal malignancies derived from different lympho cells at different points in differentiation. Lymphocyt and histiocytes, are defined and their properti described. The corresponding types of acu lymphocytic leukemia are given and the use immunologic markers are demonstrated in th differential diagnosis of the acute lymphocyt leukemias.

A case is presented in which the patient had kapp chain-producing B-cell acute lymphocytic leukem with a t(2;8) translocation. This case illustrates th utilization of clinical, morphologic, immunologic ar cytogenetic information in the differential diagnosis the acute lymphocytic leukemias.

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## troduction

The field of cancer genetics has developed rapidly ring the past decade. Cytogenetics has been applied a growing number of malignant cells. Immunology s contributed key concepts concerning malignancy.

Cancer studies and genetics have merged to form ncer genetics, as have cancer research and togenetics to form cancer cytogenetcis. At the same me, immunology and genetics have fused to form munogenetics.

The convergence of these fields is exemplified in the olving understanding of the acute lymphocytic ukemias. Immunologic markers, together with classic inical and hematologic observations, are valuable day in the differential diagnosis and treatment of the ute lymphocytic leukemias.[1]

Lymphocytes and histiocytes (macrophages) con- itute an intrinsic part of the immune system. This ntribution to *Arizona Medicine* begins with a list able 1) of information relating to these types of cells. ne properties of these cell types are presented see able 2).

These lymphoid cell types give rise to six generally cognized forms of acute lymphocytic leukemia see able 3). In each type of ALL the malignant cell is fixed d frozen at a specific point in differentiation.

Immunologic markers can therefore reveal the type of alignant cell and its level of differentiation (Table 4). ogether with clinical, hematologic, and cytogenetic formation, the differential diagnosis of the acute mphocytic leukemias can now usually be resolved, sing the immunologic markers listed in Table 4.

## otes

The following notes are to amplify the meaning of ables 1-4.

**able 1. Lymphocytes and Histiocytes**

Definitions of certain of the types of lymphocytes (and stiocytes) are given.

**ble 2. Properties of Lymphocytes and Histiocytes**

The properties of lymphocytes and histiocytes are vided into specific properties (specific to one type of ll) and shared properties (common to two or more pes of cells).

**ble 3. Types of Acute Lymphocytic Leukemia**

T-cell acute lymphocytic leukemia (ALL) accounts for % to 25% of ALL.

Pre-T-cell ALL involves immature T-cells.

B-cell ALL is rare, composing less than 1% in ALL.

Pre-B-cell ALL is responsible for up to 20% of non-T, n-B-cell ALL.

"Common" ALL accounts, as the word "common" plies for most (70% to 85%) of ALL.

Null-cell ALL is less frequent than "common" ALL.

**ble 4. Immunologic Markers in Acute Lymphocytic ukemias**

The differential diagnosis of ALL can be fully resolved to a final diagnosis with the use of five types of munologic markers.

**Table 1**
**Lymphocytes and Histiocytes**

**I. B lymphocytes**

- **B lymphocyte**
  - An immunoglobulin-producing lymphocyte.
  - Produces only one type of light (kappa or lambda) chain.
  - Monoclonal proliferation = neoplasm.
  - Polyclonal proliferation = non-neoplasm.
- **Pre-B lymphocyte**
  - Has cytoplasmic immunoglobulin (CIg).
  - *Lacks* surface immunoglobulin (SIg).
- **Plasma cell**
  - A specialized type of mature B lymphocyte.
  - Has cytoplasmic immunoglobulin (CIg).
  - Has little or no surface immunoglobulin (SIg).
  - Morphology: Basophilic cytoplasm with eccentric nucleus.

**II. T lymphocytes**

- **T lymphocyte**
  - Regulates cell-mediated immunity and B lymphocytes.
  - Possesses specific T-cell surface markers.
  - Does form spontaneous rosettes with sheep erythrocytes
- **Pre-T lymphocyte**
  - Possesses specific T-cell surface markers.
  - Does *not* form rosettes with sheep erythrocytes.
- **Helper T cell** (a T-cell subset)
  - Helps B cells produce immunoglobulin (by helping B cell to differentiate into plasma cell).
- **Suppressor T cell** (another T cell subset)
  - Suppresses B cells from producing immunoglobulin.

**III. Null cell**

- Morphologically appears to be a lymphocyte or lymphoblast.
- Lacks B and T lymphocyte specific properties (Table 2).

**IV. Macrophage** (Histiocyte)

- Bone-marrow-derived monocytic cell
- Capable of phagocytosis and immune regulation.
- Monocyte = macrophage (histiocyte) circulating in blood.
- Contains distinctive enzymes, e.g., muramidase (lysozyme).

T-cell surface markers distinguish all T-cells. However, only mature T-cells form spontaneous rosettes with sheep erythrocytes.

Mature B-cells have surface immunoglobulin (Ig). Immature B-cells do not. They have cytoplasmic Ig.

A useful tool is cALLA. It reflects surface antigen capable of reacting with anti-ALL antisera. cALLa is positive in immature B-cell ALL and in "common" ALL, but not in null-cell ALL.

Null-cell ALL is characterized by negative reactions with all five immunologic markers characterizing T- and B-cells.

**Illustrative Case**

A 76-year-old with a white blood cell count in excess of 200,000/mm$^3$ was seen by Dr. Jeffrey Isaacs, Phoenix.[3]

### Table 2
### Properties of Lymphocytes and Histiocytes

| | B lymphocytes | T lymphocytes | Null cells | Histiocytes |
|---|---|---|---|---|
| **A. Specific Properties** | | | | |
| Surface immunoglobulin | + | — | — | — |
| Cytoplasmic immunoglobulin | +/— | — | — | — |
| E-rosette: mouse | +/— | — | — | — |
| B-cell surface antigens | + | — | — | — |
| E-rosette: sheep | — | + | — | — |
| T-cell surface marker | — | + | — | — |
| Phagocytosis | — | — | — | + |
| Adhere to glass | — | — | — | + |
| Muramidase (lysozyme) | — | — | — | + |
| **B. Shared Properties** | | | | |
| Fc receptors | +/— | +/— | +/— | + |
| C′ receptors | + | +/— | — | + |

+ = present; — = absent; +/— = may be present or absent..
Surface immunoglobulin = SIg; cytoplasmic immunoglobulin = CIg.
E-rosette = erythrocyte rosette.
Fc receptors = receptors for the Fc portion of IgG and IgM on cell membranes.
C′ receptors = receptors for complement.

### Table 3
### Types of Acute Lymphocytic Leukemias

**I. T-cell ALL**
- A. Laboratory
    - Has T-cell surface markers.
    - Forms spontaneous rosettes with sheep erythrocytes.
    - Usually has nuclear terminal transferase (TdT).
    - White cell count usually high.
- B. Clinical
    - Occurs usually in older children.
    - Male predominance.
    - Prognosis generally poor.

**II. Pre-T-cell ALL**
- A. Laboratory
    - Has T-cell surface markers.
    - Does *not* form spontaneous rosettes with sheep erythrocytes.
- B. Clinical
    - Prognosis less good than with "Common" ALL.

**III. B-Cell ALL**
- A. Laboratory
    - Surface immunoglobulin (SIg) present.
    - Leukemic cells identical to those in Burkitt's lymphoma.
- B. Clinical
    - Represents usually leukemic phase of Burkitt's lymphoma.
    - Prognosis generally poor.

**IV. Pre-B-cell ALL**
- A. Laboratory
    - Cells contain cytoplasmic immunoglobulin (CIg).
    - Cells lack surface immunoglobulin (SIg).
- B. Clinical
    - Prognosis fairly good.

**V. "Common " ALL**
- A. Laboratory
    - Cells lack T- and B-cell specific properties (Table 2).
    - Usually has nuclear terminal transferase (TdT
    - White count usually low.
    - Posseses surface antigen reacting with anti-A antisera (cALLA).
- B. Clinical
    - Presents often in early childhood.
    - Tends to lack prominent extramedullary disease.
    - Prognosis good to excellent.

**VI. Null-cell ALL**
- A. Laboratory
    - Cells lack T- and B-cell specific properties (Table 2).
    - Usually lacks nuclear terminal transferase (Td
    - Lacks surface antigen reacting with anti-ALL antisera (cALLA).
- B. Clinical
    - Prognosis less good than in cALLA positive AL

**Table 4**
**Immunologic Markers in Acute Lymphocytic Leukemias**

| | Immunologic Markers* | | | | |
|---|---|---|---|---|---|
| **ype of ALL** | **T-Cell Surface Markers** | **Rosette Sheep RBCs** | **cALLA** | **Surface Ig** | **Cytoplasmic Ig** |
| I. T-cell ALL | + | + | — | | |
| II. Pre-T-cell ALL | + | — | — | | |
| II. B-cell ALL | | | — | + | |
| V. Pre-B-cell ALL | | + | + | — | + |
| V. "Common" ALL | — | — | + | — | — |
| /I. Null-cell ALL | — | — | — | — | — |

Rosette sheep RBSs = Spontaneous rosetting with sheep erythrocytes;
ALLA = Surface antigen reacting with anti-ALL antisera;
= immunoglobulin.

ne patient had been serendipitously found to have an xillary mass and marked elevation in peripheral white ells.

Initial information was consistent with acute mphocytic leukemia (ALL) in possible association with lymphoma. Cytospin preparations revealed ononuclear cells with a high nucleus: cytoplasm ratio nd an average of 1-2 prominent nucleoli. Approxiately 10% of the mononuclear cells had a clefted ucleus.

Immunologic marker studies revealed:

1. T-cell markers: Rosettes with sheep red blood cells egative and OKT3 test negative.

2. B-cell markers: Cytoplasmic immunoglobulins and urface lambda chains negative. Surface immunoobulins and surface kappa chains present.

3. Other markers: Terminal transferase (TdT) and ALLA were strongly positive as were B1 and Ia. Fc eceptors were negative.

Our interpretation of this information was that: "This henotype indicates a population of immature cells of mphocytic origin, B-cell type, possessing preominantly kappa light chain surface immunoglobulin."

Chromosome studies disclosed a t(2;8) translocation the malignant lymphocytes. The breakpoints in hromosomes two and eight were at bands 2p12 and 8q24. (We know that the kappa chain genes are on the short [p] arm of chromosome 2).

The overall diagnosis is, thus, kappa-chain-producing B-cell acute lymphocytic leukemia.[3]

This case illustrates the precision with which the diagnosis of a specific type of ALL can be made. The aim is precision in treatment and prognosis.

## Afterword

These tables and the illustrative case may assist in knowledge about immune cells and the differential diagnosis today of the acute lymphocytic leukemias.

A related article on cytogenetic studies for the diagnosis and monitoring of the acute leukemias was contributed earlier.

The next contribution in this series will pertain to chronic lymphocytic leukemia and the non-Hodgkin's lymphomas.

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*Neurology*

# The Early Management of Cervical Spine Injuries

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**Abstract**

Management of the individual with an acute cervical spine injury should be designed to maintain residual spinal cord function by proper immobilization, oxygenation and reduction of spinal cord compression. A thorough neurological and radiographic examination is a baseline for further treatment. Although, high dose steroid therapy is recommended for patients with neurological deficit, extensive research is being carried out to develop new pharmacological therapy.

Each year 10,000 persons may sustain spinal cord injury in the United States, adding to the approximately 200,000 Americans who have survived this type of trauma.[1] The initial few months of hospital care can cost from $56,000 to $80,000 and lifetime cost may total $500,000 to $1,000,000.[2-3] Optimal management of these injuries may limit this enormous personal and financial cost.

Although many different kinds of accidents can result in injuries to the spinal cord, automobile accidents account for the largest number of these injuries and death. Of the 55,000 automobile related fatalities each year, about 40,000 (70%) result from injury to the central nervous system, and as many as ten percent of these had associated spinal cord injuries.[3-4]

**Table**
**Suspect Cervical Spine Injury**
**in the Trauma Patient with:**

A. Head, neck, or facial injury.
B. Impaired consciousness.
C. Unexplained neurological deficit.
D. Tenderness, deformity, or muscle spasm in the neck.
F. Severe neck pain.

### At the Accident Site

Unfortunately, nothing can be done to rever disruption of the central nervous system tissue whi occurs at the moment of injury. Consequent prevention of injury is the best care. Once an injury h occurred, management is aimed at preventing tl progression of the spinal cord injury.

Whatever the cause of the spinal cord injury, tl period between the accident and the patient's arrival the Emergency Department is critical. Failure recognize injury to the bony spine, with or witho neurological signs, is a common error. To avoid tl error emergency personnel must have a high index suspicion for cervical spine injury in the injury victi (see Table).

In persons suspected of having a cervical spine injur the airway must be maintained without extending tl neck, either by the mandible-thrust or the chin-l method. The mouth should be cleared of debris, such broken teeth, dentures, blood, secretions or vomitu An IV should be started to avoid hypotension.

For the patient with a spinal cord injury, transf should be done with extreme caution. A rigid cervic collar should be applied to every accident victim with suspected cervical injury. The patient should be move by a team of three or more persons. When the patient trapped in a vehicle and needs to be extricated b mechanical means, the moving should be done by professional rescue team. The half backboard should b employed for removal of the victim from a vehicle. Th patient should be secured supine on a long backboar before transportation to the Emergency Room. Oth techniques of immobilization include: sandbag cervical collar, skeletal tongs for traction, an commercially available splinting devices.[2] To transpo spinal cord injured patients for distances of up to 7 kilometers, critical care vans are recommended wit standup room for cardiopulmonary resuscitation, I administration equipment, and telemetry equipmen For distances greater than 125 kilometers, airplanes ar best.

### In the Emergency Room

Once the patient arrives in the Emergency Roon adequate oxygenation and blood flow to the injure cord must be assured. A neurological deficit can b created or worsened by anoxia caused either b inadequate ventilation or circulation. Strict attentio should be paid to airway maintenance an

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From: Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, 350 West Thomas Road, Phoenix, Arizona 85013. Reprint requests to Volker K. H. Sonntag, 222 West Thomas Road, Phoenix, Arizona 85013.

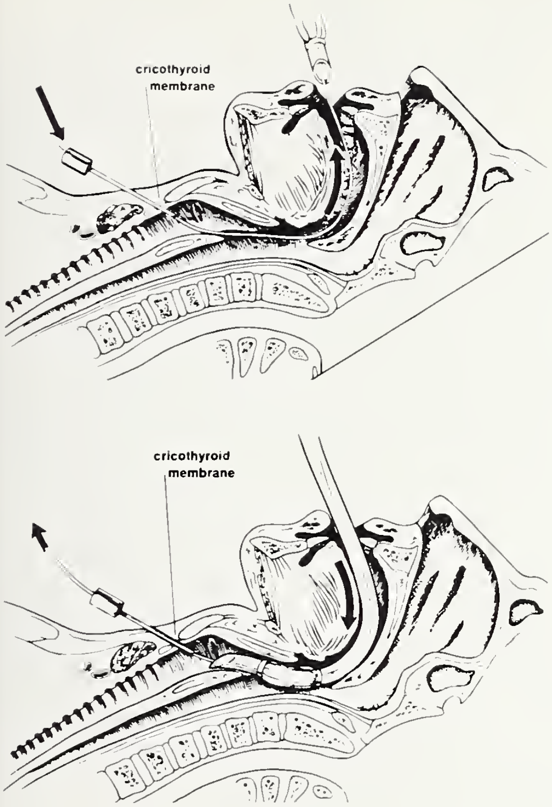

**Figure 1**
**Trans-cricothyroid Catheter Technique.**[2]

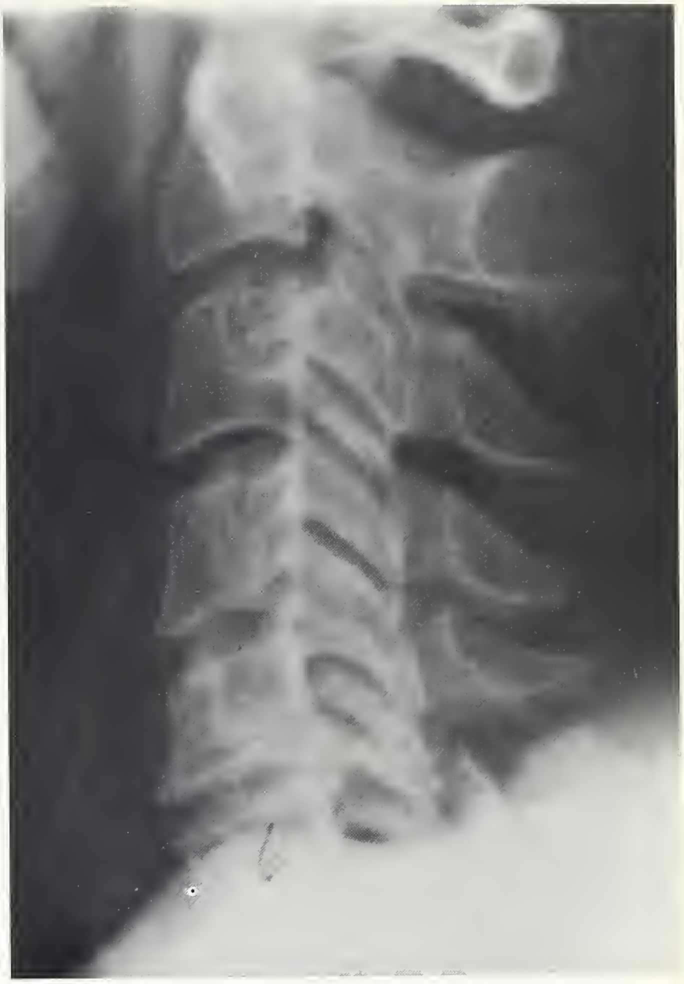

**Figure 2**
**Lateral Cervical Spine Radiograph not showing C-7**

rmotensive perfusion. Several investigators have own experimentally that as the spinal cord oxygen nsion or blood flow declines, the cord damage creases.[3] Therefore, during the patient's initial anagement, an IV line should be inserted for fluid ministration to avoid hypotension. This may be cessary because of actual blood loss due to the sociated injuries or because of vasomotor paralysis om the cord injury itself (neurogenic hypotension). sruption of descending sympathetic pathways results loss of vasomotor tone and subsequent hypotension. nopposed parasympathetic activity will commonly sult in bradycardia. This is in contrast to the patient th depressed blood pressure secondary to emorrhagic shock, where the heart rate is elevated. If eurogenic hypotension is present, the head should be ositioned lower than the rest of the body, and drugs to nprove cardiac output and peripheral circulation ould be considered.

Adequate ventilation sustains oxygenation. In case of entilatory insufficiency uncorrected by oxygen lministration, tracheal intubation is indicated. This ay be done either nasotracheally, or tracheal tubation may be performed using a fiberoptic laryngoscope. Another technique which may be useful is insertion of a small plastic catheter (such as an intravenous catheter) through a needle puncture in the cricothyroid membrane. The catheter is then passed up the larynx and out the mouth. An endotracheal tube is passed over the catheter and guided through the vocal cords. The catheter is then withdrawn and the endotracheal tube advanced into the trachea (See Figure 1).[2]

A nasogastric tube should be inserted in order to prevent abdominal distension secondary to paralytic ileus. If untreated, this can result in vomiting, aspiration, and respiratory embarrassment. A Foley catheter should be inserted as soon as possible. Retention of urine can develop within hours. Because of sensory paralysis there may be no discomfort. This can lead to distention of the bladder and subsequent hypotonia.

**Clinical Evaluation**

In the patient with cervical spinal cord injury, a thorough neurological examination is mandatory with emphasis on upper extremity function. This should include evaluation of the level of consciousness with examination of the cranial nerves as well as motor and sensory functions in the arms and legs. Reflex

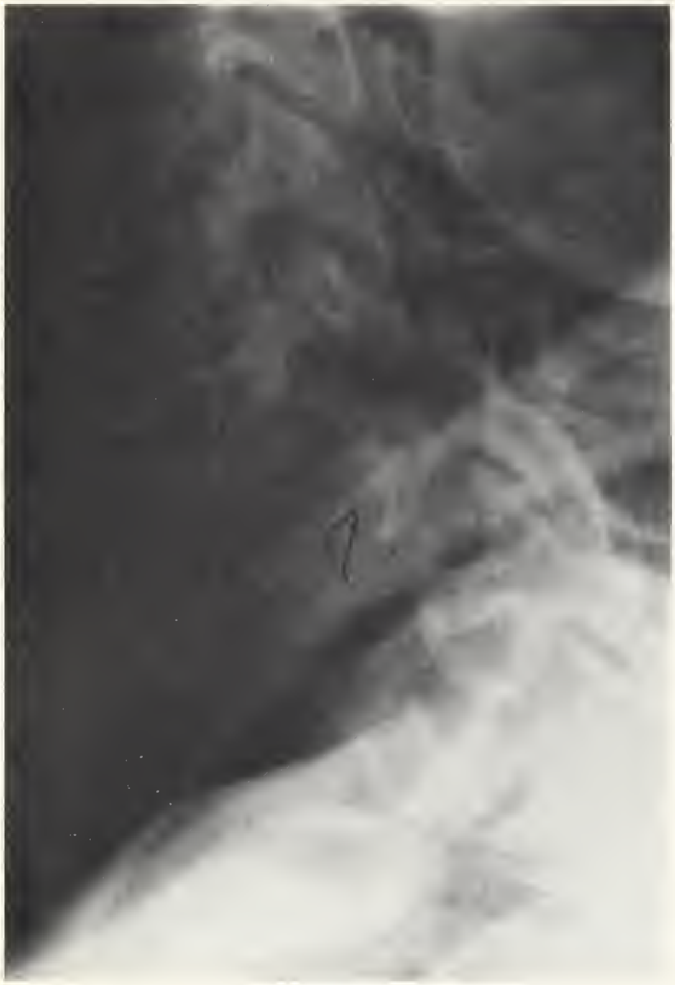

**Figure 3**
**Same spine as Figure 1, but a "Swimmer's View" showing C-6-7 subluxation and locked facets.**

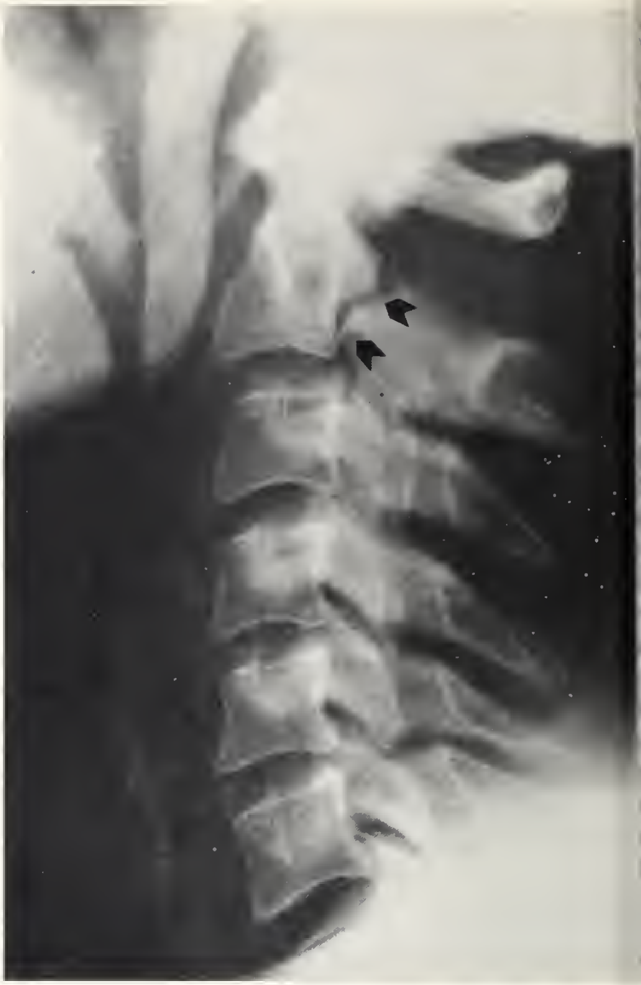

**Figure 4**
**The roof of the spinal canal at C-2 does not line up with t roof at C-3 and C-1 due to a fracture through the pedicles C "Hangman's Fracture," (double arrow).**

examinations should include deep tendon reflexes and the abdominal, cremasteric and plantar reflexes. A rectal examination should be included since the presence of voluntary rectal sphincter tone of the patient with a cord injury suggests an incomplete cord lesion. Inspection of the patient for external signs of trauma may help in localizing the spine injury and its mechanisms. For example, injuries to the forehead and chin may cause hyperextension of the cervical spine or a blow to the vertex of the head may cause a compression fracture of the cervical spine. Abrasion or laceration of the posterior trunk may suggest thoracic or lumbar injuries. Palpation of the spine without moving the patient may reveal prominence of the spinous processes, local tenderness and pain, edema, deformity or muscle spasm.

**Radiological Evaluation**

If there is any suspicion of the cervical spine injury, a cross-table lateral x-ray demonstrating all seven cervical vertebra must be obtained. Ideally, this film is exposed with the patient on the Emergency Department cart. Great care should be taken to make certain the neck is held in the neutral position. Fractures and dislocation in the lower cervical spine can be missed because inadequate films (Figure 2). Proper visualization can obtained by pulling the patient's arms down. If this fai a transaxillary "swimmer's view" should allow prop visualization of these vertebra (Figure 3). Several oth features may suggest radiological injury to the spine: a prevertebral soft tissue greater than two-thirds of t diameter of any corresponding cervical vertebrae; b retrotracheal space from the anterior-inferior aspects C-6 to the posterior wall of the trachea, exceeding mm in the adult, or 15 mm in the patient younger than years;[6-8] c) an odontoid on the lateral view showed mo than 3 mm from the arch of C-1 in the adult (5 mm children); d) an irregularity of the dorsal aspects of t spinal canal. Figure 4 demonstrates a Hangma fracture where the roof of the spinal canal does not li up correctly at C-2 because of the fracture of t pedicles.

Some patients warrant further radiological studi particularly those patients with significant cervical pa and normal neurological examination, and those wit neurological deficit and normal cervical spine films. these cases, additional films should include an AP vi

the lower cervical spine, an AP view of the atlas-axis
ith an open mouth, a cross-table lateral to include the
ven vertical vertebrae, two 30 degree oblique films,
d a vertebral arch view with the tube angled caudally
22-35 degrees. If all these views prove to be normal,
en an intact patient may be placed erect for a lateral 45
egree oblique view. If there is still no obvious
diographic abnormalities, flexion-extension views
nder strict supervision should be considered, for they
ay demonstrate instability due to ligamentous
juries.[6,8] Tomography or computerized tomography of
e suspected levels may be considered.

**ecific Treatment**

Emergency pharmacological treatment with corti-
steroid administration is recommended. Admin-
ration of corticosteroids remains controversial,
though sound theoretically rational is available. The
ay matter of the spinal cord is more active
etabolically and probably more sensitive to injury. Post
umatic studies of the spinal cord have demonstrated
onal swelling and initial diminished circulation to the
ay matter. This is followed within hours by
emorrhage and edema in the gray matter spreading
tward to the white matter resulting in necrosis and
culation of the white matter.[2,9-12] Steroids theoretically
unteract the edema and possibly the delayed
emorrhage and extravasation of the blood by
bilization of cell and vascular membranes.[12] In
perimental studies, animals treated with corti-
steroids fared far better after spinal cord injury than
e nontreated animals.[12] Most spinal cord injury
nters recommend high doses of steroids given as soon
possible.[2,3,5] This usually consists of 1 mg to 2 mg of
xamethasome per kilogram IV initially and every four
six hours. If the patient improves, this steroid therapy
maintained for approximately a week and then
ered. If no improvement is seen, the steroids are
scontinued after three days. Until there is evidence to
e contrary, I recommend corticosteroids in high doses
rting as quickly as possible after the injury.

Other pharmacological methods of treatment of the
ute spinal cord injury are controversial but some
pear promising. These include aminocaproic acid,
methyl sulfoxide, mannitol, heparin and Naloxone
d thyrotropin releasing hormone. Clinical demon-
ation of efficiency is lacking.[11,14,15]

**mmary**

Since spinal cord regeneration does not occur in man,
ere is no way to reverse traumatic spinal cord
sruption. Therefore, prevention of accidental cord
jury is the best treatment. Failing prevention, current
eatment is directed towards minimization of
condary injuries to the spinal cord tissue resulting
om improper immobilization, poor oxygenation, or
rsistent cord compression. Optimum care in the acute
ge may prevent neurological deterioration in 10% to
% of patients with spinal cord injury.

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Psychiatric Disorders

# Patronizing

William B. McGrath, M.D.

Editor:
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Abstracting and generalizing are complementary. Their mating issues in the stereotype.

It is like a stile: One goes up the steps of induction to a generalization, and then down the steps of deduction. Here grow some of the most stubborn weeds in the garden of reasoning. The skeleton of Aristotle, the syllogism, flaps like a scarecrow on the gatepost of emergence.

Let's begin with an irritating example. The major premise: Older persons have special concerns. The minor: You are an older person. Conclusion: You have special concerns. The proposition is true. The deduction is valid.

So you are an "oldster" and you have become entitled to a senior citizen's discount. By virtue of what? What in the world does being sixty-five have to do with need or deserving of a discount? Implicit in the very idea is that age must be some kind of a deficiency disease. And some folk might take offense at being considered objects of charity.

Hospitals go along with other agencies in a regressive trend toward generalizings. People who are most passionately and vociferously opposed to discrimination are often the worst offenders. (Remember the sweetly insulting project called affirmative action?)

Pity the admission clerk. A sixty-four-year-old pagan half-breed Navajo comes in with possible cancer of the prostate. Shall he be transported halfway to the India Hospital? Or might we bless ourselves and admit him to Baptist or a Lutheran establishment? Does he belong o the surgical ward or in the urology wing or on th oncology unit? No; tomorrow is his birthday and he wi be transferred to geriatrics, and the Jewish LPN will serv him a geriatric egg for breakfast.

Depersonalized, he will be herded into one or sever of those puerile programs which hospitals publicize wit pretentious slogans and self-praise. Generalizations ca swaddle a person so completely that his individu features are no longer envisaged or remembered—eve by himself. This is how we nudge a patient towar disorientation and delirium.

Geriatrics constitutes only one of many examples compartmentalization at the cost of identity. psychiatrist lists himself as dealing with childre adolescents, young adults, adults and older adults. Le that might not quite cover the spectrum, he ad married and unmarried couples and those who ar divorcing.

Whatever the excuses (and they almost always prov to be economic), generalizations tend to be patronizin In our complex society individuals do have to rely o professional services. People also find themselves in th audience or as passengers or otherwise somewh dependent. Nowhere is the we-they distinction mor condescending than in the clinic or the courtroom

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From: 4910 North 44th Street, Phoenix, Arizona 85014.

e church, or in the office of the doctor or the lawyer or e bureaucrat. Father Emmett, who founded St. onica's Hospital (now Memorial) wrote a touching ook, but he entitled it, "People's Padre." Padre? How resumptuously arrogant can one be!

Doctors often fail to recognize our own hypocrisy. We y that we are putting the patient at ease by calling him y his first name. Not so. We are putting ourselves at ease y demonstrating our control of the situation. We'd feel nnoyed, actually threatened, if a patient's or a nurse's eply failed to include our full title.

That reassurance of control is extremely important but ldom acknowledged. In earlier times the leper carried warning bell; the slave and the criminal were igmatized, literally branded; the European Jew wore arm band. We put down the individual by delineating s group in derogatory terms: the rich doctor, the rooked lawyer, the loan shark, women drivers, the umb blonde, the mentally ill, the movie-going public, e bleeding hearts, the lunatic fringe, the womanizer, e alcoholic, the idle housewife, the senior citizen. ow much easier it is to think of labels which are emeaning!

Do you question this insistence on control? Try eckling or even joking with an auctioneer or a ofessional entertainer, especially a comedian. You will e clawed to death. Unless the applicant agrees to jump and down and squeal, he will be excluded from the me show. You, the viewer, ought not laugh or clap ntil they turn on the hilarity machine or hold up the e, Applause. Have you listened to the droning ctation of the doctor, padding his report to pacify ose witless committees to which he has let himself ecome accountable?

Medicine as science has brought under progressively rrowing control the plagues and famines of mankind. number of more or less acute diseases can now be eated with chemicals or even surgically. So the endulum swings over toward the "functional" part of e spectrum. This essay is not heresy, is not meant to be objection to the current emphasis on psychosomatic edicine. It is just a gentle caveat about our priorities d our qualifications.

Varying portions of greed and grandiosity and naivete e enticing us to try to be—or posture as—all things to people. The term, holistic, is suspect. Hospitals and dividual physicians pay homage to the "medical odel" and then advertise marriage and sex therapies, isure counseling and stress reduction, and group ograms for everything from "birthing" to "parenting" coping with death. Hundreds of doctors are listed as gaging in Family Practice. No; there is no such thing as family which can be examined scientifically and eated. The physician risks losing contact with his tient when he scurries around, trying to put the blood essure cuff on his relations' lips.

To put it tritely, we can't have it both ways. Any lationship, as such, is an abstraction. Whenever edicine in general and psychiatry in particular become too preoccupied with abstractions, we default that special deference which we used to command as scientists. An intelligent layman is appalled at the bromides and platitudes being dispensed by self-proclaimed experts on relationships. A lot of the ill-feeling toward all professions, especially the medical, is a reaction to attitudes and practices which are patronizing.

At the moment my peace of mind will be improved when my Cadillac is running properly. The mechanic is not invited to question my need of that status symbol. Nor do I want group therapy in which to "share" experiences with malfunctioning cars or "get in touch with my feelings" on the subject. I do not need assertiveness training to tell the mechanic just to fix the damn thing!

So with our patients. They want us to do first what we are trained to do: get their systems into top running order. A person who is feeling good can usually take care of his own social and psychological and spiritual concerns. Suppose he is smoking or drinking too much or having an affair or pursuing some seemingly self-destructive course. The mature physician will sense when such a patient is not ready to reason or to be reasonable. It takes tact and journeyman discipline to wait: The patient will let you know if he wants you to assume the role of priest or judge or psychologist or friend.

Within the limits of our qualifications and license we should make ourselves available in these various capacities. But we are not yet the doctor-heroes of television, intruding uninvited into the private lives of our patients.

Whenever we do assume a paternal role, we impose on the individual a corresponding set of expectations. Besides paying his bill he has to be a "good" patient, docile and compliant, respectful in manner and effusive in gratitude, rationalizing and apologetic for his shortcomings.

In every other relationship a person is never quite free of that strain: Something is expected of him; he must struggle to live up to his own standards and those of his position; he must be self-sacrificing and vigilant lest somehow he will be a disappointment and lose face. From everyone who cares about him or is in authority (horrible word), he has had to listen to those asinine little sermons about quitting cigarettes and cutting down his drinking and losing ten or fifteen pounds and beginning calisthenics and finding a hobby and "communicating" with his spouse and children.

When we get too self-important or narcissistic, we are disposed to make a patient feel personally accountable to us. The inescapable consequence is ambivalence, and we defeat the unique purpose and value of our profession.

Unless a patient conveys a clear need and wish for a counselor or for some complicated surrogate relationship, we might wisely suppose that he wants us to mind our own business and just be his doctor.

Radiology

# Case of the Month
## No. 60

Cary J. Stegman, M.D.
Jonathan M. Levy, M.D.
Stephen Serlin, M.D.

Editors:
Jonathan Levy, M.D.
Janice R. Smith, M.D.

### Case History

A teenager was kicked by a mule. He had pain in the right upper abdomen, with a bruise over the area. A nuclear medicine scan of the liver (Figure 1) showed defect in the right lobe. Late images showed the biliar tree, and filling in of the defect. (Figure 2).

What kind of scan was done?

What is the defect (arrow) on the first scan?

Why does the defect fill in on the late images?

From: Scottsdale Memorial Hospital, Departments of Diagnosti Radiology (CJS, JML) and Pediatrics (SS), 7400 East Osborn Road Scottsdale, Arizona 85251.

*Continued on page 653*

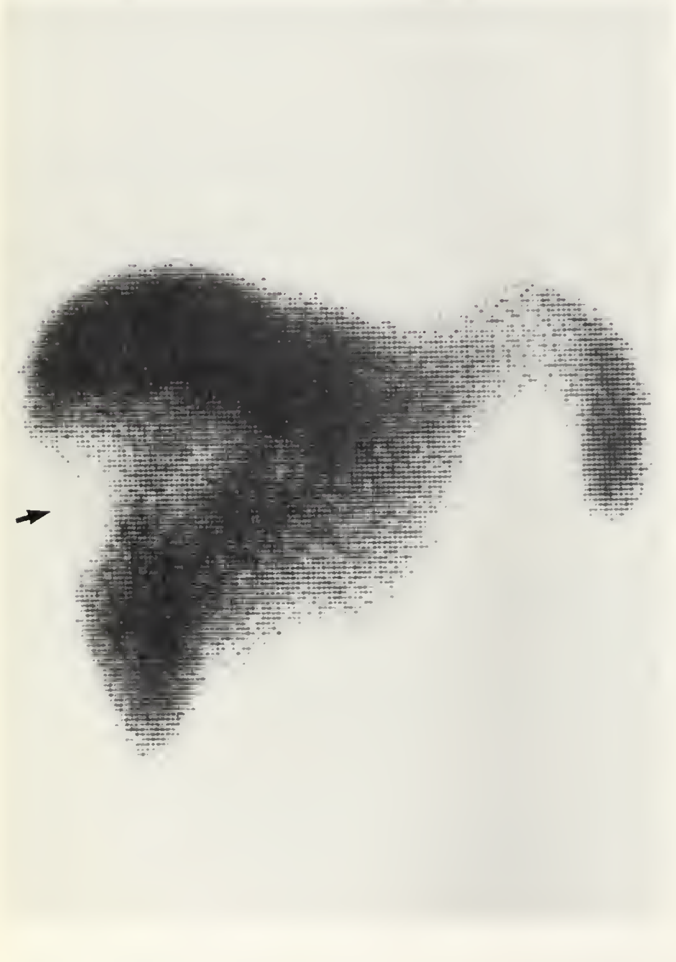

**Figure 1**
**Early anterior image shows defect (arrow) in right lobe of liver.**

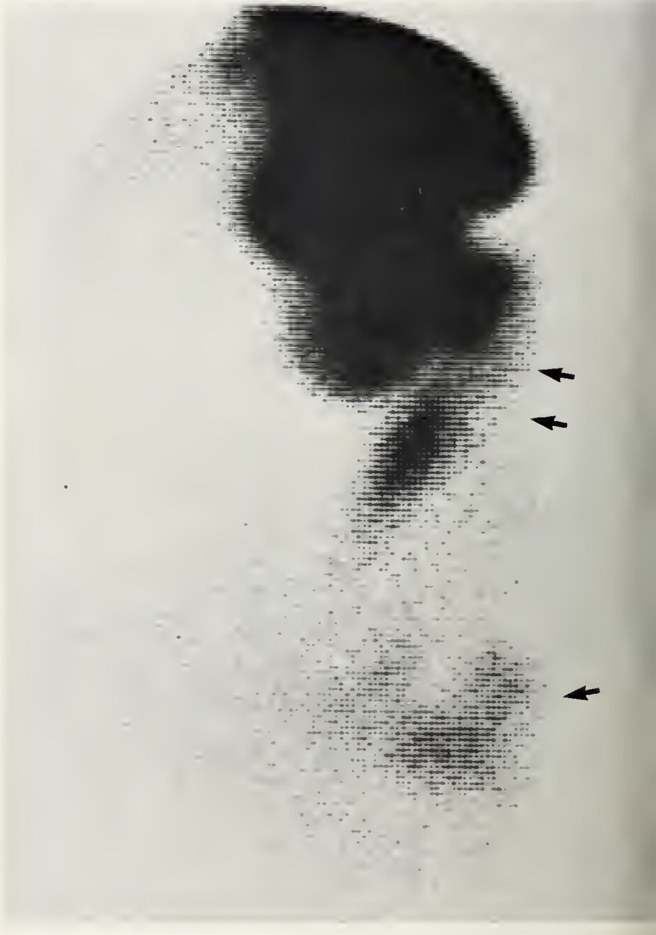

**Figure 2**
**Late image shows filling in of defect with radionuclide (arrow) and excretion of radionuclide into bowel (double arrows).**

# When mild to moderate pain is a side effect of "Fitness"

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(ibuprofen)

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"...particularly effective in soft tissue disorders including sports injuries,"[1] Rufen stops pain at the site of injury and inflammation, not at the level of central perception. There is no dulled sensorium, no special need for warnings about driving or cautions about use of machinery. Your patient gets fast, effective pain relief...potent anti-inflammatory action...excellent tolerance...*plus* the exceptional economy that only Rufen offers. Next time one of your patients asks for pain relief, let Rufen show you how it measures up.

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See next page for brief summary of prescribing information.

# Measure RUFEN® (ibuprofen) against "standard" mild to moderate pain

Dental pain and episiotomy pain are predictable, reproducible "standards" that make possible objective comparisons of effectiveness of different analgesic agents.

- Measured against 15, 30 and 60 mg doses of codeine phosphate in a double-blind study of 287 patients, 400-mg doses of ibuprofen proved "significantly better than codeine on almost all pain intensity, degree of relief and duration of analgesia parameters."[2]
- Measured against a propoxyphene-acetaminophen combination for pain relief after 3rd molar extractions, ibuprofen proved equally effective and caused fewer side effects. Ibuprofen was associated with faster recovery, evidenced by more rapid reduction of trismus and return to normal function.[3]
- Measured against post-episiotomy pain in 30 patients, "ibuprofen was effective in treating the swelling as well as pain…during the first and worst days. Therefore, it is not only the analgesic but also the anti-inflammatory effect of ibuprofen that are the beneficial factors…"[4]

# Measure RUFEN® (ibuprofen) against any mild to moderate pain

| RUFEN | Acetaminophen + codeine combinatio |
|---|---|
| • single-entity, peripheral-acting analgesia | • combined drugs act partly through central opioid pathways |
| • powerful treatment of both pain and inflammation | • virtually no treatment of the inflam-matory component |
| • better tolerated than aspirin | • combined side effects of two drugs—warning required about driving or operating machinery; possible respira-tory depression with alcohol, tranquil-izers, other common medications |
| • no narcotic risk, red tape, records | • narcotic precautions required |
| • matchless economy in a modern NSAID | |

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# And Rufen® Measures Up Best

## RUFEN® (ibuprofen) Tablets

**INDICATIONS AND USAGE**: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have not been established for Functional Class IV rheumatoid arthritis.

**Relief of mild to moderate pain. Treatment of primary dysmenorrhea.**

**CONTRAINDICATIONS**: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angio-edema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

**WARNINGS**: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally, however, an association has not been established Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding

**PRECAUTIONS**: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

**DRUG INTERACTION**: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

*Aspirin.* Concomitant use may decrease Rufen blood levels.

**PREGNANCY AND NURSING MOTHERS**: Rufen should not be taken during pregnancy nor by nursing mothers.

**ADVERSE REACTIONS**: **Incidence greater than 1%. Gastrointestinal**: The most frequent adverse reaction is gastrointestinal (4 to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). Central Nervous System: dizziness*, headache, nervousness. Dermatologic: rash* (including maculopapular type), pruritus. Special Senses: tinnitus. Metabolic: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).
*Incidence 3% to 9%.

**Incidence less than 1 in 100. Gastrointestinal**: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. Central Nervous System: depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma. Dermatologic: vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome and alopecia. *Special Senses.* hearing loss, amblyopia (blurred and/or diminished vision, scotomata and/or changes in color vision) [see PRECAUTIONS]. Hematologic: neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura eosinophilia, decreases in hemoglobin and hematocrit. Cardiovascular: congestive heart failure in patients with marginal cardiac function, elevated blood pressure. Allergic. syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasms (see CONTRAINDICATIONS). Renal: acute renal failure in patients with preexisting significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria. Miscellaneous: dry eyes and mouth, gingival ulcers, rhinitis.

**Causal relationship unknown. Gastrointestinal**: pancreatitis. Central Nervous System: paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri. Dermatologic: toxic epidermal necrolysis, photoallergic skin reactions. Special Senses: conjunctivitis, diplopia, optic neuritis. Hematologic: bleeding episodes. Allergic: serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis. Endocrine: gynecomastia, hypoglycemia Cardiovascular: arrhythmias (sinus tachycardia, bradycardia, and palpitations). Renal: renal papillary necrosis.

**OVERDOSAGE**: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

**DOSAGE AND ADMINISTRATION**: Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Dysmenorrhea: 400 mg every 4 hours as necessary

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for the relief of pain. *Do not exceed 2,400 mg per day.*

**CAUTION**: Federal law prohibits dispensing without prescription.

RF-077

## swer:

## ceration of the liver

### e leakage into the laceration on hepatobiliary scan

epatobiliary scanning is quickly gaining acceptance
the primary modality in evaluation of acute chole-
titis. However, its applications are more extensive.
ditional sulfur colloid liver scans image the hepatic
enchyma, since the radionuclide is taken up by the
culoendothelial cells. Hepatobiliary agents are
tabolized in a similar manner to bilirubin; therefore
h the parenchyma and biliary system are imaged with
se agents. Morphologic detail of the liver during the
atocyte phase of the scan is equal to that seen with
ur colloid. This makes hepatobiliary scanning useful
rauma. Hepatic hematomas and lacerations can be
ected with accuracy equal to that of colloid scans.
ce hepatobiliary agents are processed by the
atocytes and excreted into the biliary tree,
uption of bile ducts is also demonstrable by this
nique.

he hepatocellular phase of the scan on our patient
nonstrates a large "cold" area in the right lobe of the liver. (Figure 1). Such areas of decreased uptake of radionuclide can be seen in metastases or primary hepatic tumors. However, in a young patient with a history of trauma, this most likely represents a laceration or localized hematoma. On the delayed scan (Figure 2), the cold defect produced by the laceration fills in with radionuclide. This indicates extravasation of radionuclide, and, by implication, bile leakage into the laceration. This information is important in the clinical management of individuals suffering hepatic trauma, since bile leakage may lead to delayed hemorrhage, infected biloma and/or bile peritonitis.

Hepatobiliary scanning provides information equal to the sulfur colloid scan in demonstrating the hepatic parenchyma, and has the additional benefit of imaging the biliary tree. This makes the examination valuable in assessing hepatic integrity after trauma.

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Surgery

# The Maricopa Medical Center Experience with Hemiarthroplasty

James W. Pritchett, M.D.

Editor:
Jack A. Friedland, M.D.

## Abstract

One hundred and forty-six patients with a median age of 76 were treated by endoprosthetic hemiarthroplasty between 1975 and 1980. Eighty-three percent of patients had significant medical problems that made them a poor risk for a possible second operation. In ten patients, the prosthesis was placed for avascular necrosis and an additional nine fractures were termed pathologic. The remainder were displaced acute fractures.

The six month mortality was twenty-five percent. Good pain relief was obtained in sixty-five percent. Seventy-one percent were ambulatory postoperatively, compared with eighty-six percent preoperatively. Twenty-five percent of patients developed joint space narrowing, but only seven percent were revised to a total hip arthroplasty.

Medical complications occurred in sixty-five percent of patients, and surgical complications in nineteen percent. Forty-five percent of patients with a surgical complication survived less than six months.

Key Words: Hemiarthroplasty, endoprosthesis femoral neck fracture, bilateral hemiarthroplasty as a single procedure.

**Table 1**
**Associated Medical Conditions**

| | # | % |
|---|---|---|
| Atherosclerotic Cardiovascular Disease | 57 | 39 |
| Mental Incompetence | 44 | 31 |
| Chronic Obstructive Pulmonary Disease | 26 | 18 |
| Neoplasia | 21 | 14 |
| Diabetes & Other Endocrine Disorders | 15 | 10 |
| Cerebrovascular Disease | 13 | 9 |
| Gastrointestinal-Liver Disease | 8 | 6 |
| Urinary Tract Infection | 6 | 4 |
| Seizure Disorders | 5 | 3 |
| Parkinson's Disease | 5 | 3 |
| Bladder Outlet Obstruction | 3 | 2 |
| Rheumatoid Arthritis | 2 | 1 |
| Temporal Arteritis | 1 | 1 |
| Ankylosing Spondylitis | 1 | 1 |

## Introduction

On September 28, 1940, Austin Talley Moore, M. replaced the proximal one half of the right femur i fifty-two year old black male with a vitallium prosthe fashioned by Dr. Harold R. Bohlman. The operation w performed in preference to amputation for a recurre questionably malignant tumor in the intertrochante region.[1]

Prior to his death in 1963, Austin Moore perform hemiarthroplasties in over 350 patients. He develop the self-locking prosthesis in 1949, and used it for acu fractures, nonunions, avascular necrosis, a osteoarthritis.[2]

We have reviewed the experience in 146 patients w underwent endoprosthetic hemiarthroplasty Maricopa Medical Center between the years 1975 a 1980. Of these, 109 patients survived at least six mont and meaningful follow-up data was available. The leng of the follow-up ranged from six months, to four ye and six months (average 20 months).

## Selection of Patients

In our series, the median age was 76 years (range 35- average 75.15 years). Ninety-four (64%) fractur occurred in women and fifty-two (36%) occurred men. Seventy-five fractures occurred in the left fem and seventy-one in the right.

## Associated Medical Conditions

One hundred twenty-one patients (83%) had previo documentation of significant medical conditions. (Tab 1) Forty-one percent of patients undergoi hemiarthroplasty resided in a nursing home prior hospital admission. An average delay of 2.5 da between the injury and operation reflects the ti necessary to evaluate and treat the many medic problems in this elderly group of patients.

## Associated Hip Disease

Associated hip disease was present in two thirds of t patients. Significant osteoporosis was present in fif

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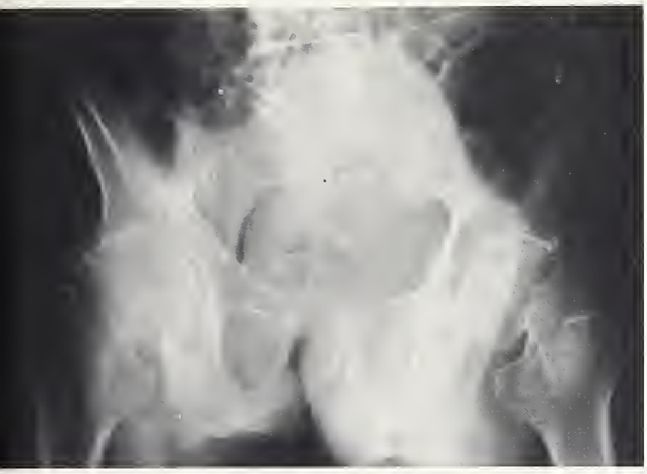

**Figure 1-A**
ghty-seven year old male with simultaneous displaced ctures of both femoral necks.

**Figure 1B**
Postoperative film after bilateral cemented hemiarthroplasty as a single procedure.

tients (34%). This is reflected in the fact that sixty-four 4%) fractures were the result of a minor fall and nine %) were spontaneous. Degenerative changes were esent in eighteen (12%) patients, two had rheumatoid thritis, two had chondrocalcinosis, and one patient d ankylosing spondylitis. Six patients had a previous pen reduction on the hip undergoing prosthetic placement. Two patients had contractures requiring lease.

### ssociated Contralateral Hip Disease

Thirty-three (23%) patients had contralateral hip sease. Thirteen had symptomatic degenerative joint sease, eleven had a previous open reduction and ternal fixation, and seven had a previous emiarthroplasty. Five patients had subsequent ntralateral hip fractures during the follow-up period. ne patient had bilateral femoral neck fractures on esentation.

### ase Report

An eighty-seven year-old white man was a good mbulator and in apparent good health until March 1, 78 when he stumbled at home and fell. He complained pain in both hips and could not ambulate after the fall, ut no other injury was noted. He presented to aricopa Medical Center where a radiograph of his elvis demonstrated bilateral displaced subcapital mur fractures. (Figure 1-A).

The next day the patient underwent bilateral emented hemiarthroplasty as a single procedure. igure 1-B). Cemented Eftekar prostheses were eferred after trial uncemented Austin-Moore ostheses were found to be loose in the femoral canals. e operative time was two hours and forty minutes cluding change-over and redraping between erations.

The postoperative course was unremarkable and the tient was discharged from the hospital on the entieth postoperative day ambulatory with a walker. entually the patient progressed to a single cane for support and expired with a myocardial infarction three years postoperatively.

### Activity Status

Twenty patients in this series were not ambulatory preoperatively. Thirteen patients had severe restriction, and thirty-eight had mild or moderate restriction. Seventy-two (50%) had no restrictions.

Of the forty-two patients who had used assistive devices for ambulation before operation, 19 had walkers, 14 had canes, and nine needed another person to assist them or walked behind wheelchairs.

### Characteristics of the Fracture

Nine fractures (6%) were pathologic and ten prostheses were placed for avascular necrosis already there at the time of presentation. One fracture was intertrochanteric.

Of the remaining 126 fractures: eighty-seven (69%) were subcapital, twenty-eight (22%) were transcerval, and eleven (9%) were basilar. All fractures were displaced, and one-third were comminuted.

### Results

One hundred twenty-five (86%) patients were treated with an uncemented Moore prosthesis. In eighteen patients the trial prosthesis was loose and Methylmethacrylate was added to achieve additional fixation. Fifteen patients with cemented hemiarthroplasties had an Eftekhar prosthesis and three a Moore. In one patient the trial Moore prosthesis could not be fully impacted into the femur and an uncemented Eftekhar prosthesis was successfully placed.

The average surgical time was sixty-five minutes with an average blood loss of 350 cc. The posterior approach was used in all cases. Abduction pillows were used during the hospital stay, but physical therapy with full weight bearing was encouraged. The average length of hospitalization was 25 days. Seventy-four patients (62%) were discharged to nursing homes. Twenty-three patients who had not required a nursing home prior to admission did so at discharge.

### Pain

Of 109 patients surviving at least six months, (mean follow-up twenty months), sixty-six (60%) had no pain, and five had minimal pain. Twenty-five had moderate pain, and five had severe pain. Eight additional patients required revision to a total hip arthroplasty.

Thirty-four (31%) patients required medication for pain. Twelve of the patients with no or minimal pain, and one of the revisions to a total hip had a cemented hemiarthroplasty.

### Ambulation

Medical factors contributed to rehabilitation difficulties in forty-four patients. Thirty-one patients (29%) were nonambulatory, twelve ambulated only with assistance. Forty-three patients used a walker and twelve a cane. Only eleven (10%) patients were independent.

### Medical Complications

Of 146 patients, ninety-five (65%) had medical complications (Table 2). Clinical deep venous thrombosis was diagnosed in one patient, and five additional patients had pulmonary emboli. Urinary tract infections occurred in twenty-eight (19%) patients, all of whom had catheters. Pulmonary complications developed in seventeen (12%) patients, gastrointestinal in fifteen (10%), and cardiac complications in eleven patients. Nine patients had decubitus ulcers develop, four had strokes, two had renal failure, two developed urinary retention, and one patient developed an acute psychosis.

### Surgical Complications

Twenty-eight (19%) surgical complications occurred in twenty-seven patients. (Table 3). Two complications (one fracture and one dislocation) occurred in the cemented group. Thus, the rate of complication is similar. The overall infection rate was 7.5%. Seven patients (4.8%) had deep wound infections. All patients with deep wound infections had operative debridement, and the prosthesis was ultimately removed in six cases. Six patients died within three months of the diagnosis of their infection.

All four patients with superficial wound infections responded to wound care and antibiotics, and none required removal of the prosthesis.

Dislocation of the prosthesis occurred in seven patients (4.8%). In three cases, reduction with sedation produced a good result. In two cases revision was required, one of which was to a bipolar prosthesis. One patient died during the manipulative reduction, and another was left with a chronic dislocation.

### Fractures

Ten patients (6.8%) suffered additional fractures to their ipsilateral femur. Three of these were below the prosthesis, and two were then treated with revision to a long stem prosthesis in one instance with total joint replacement. One fracture below the prosthesis was treated in traction.

Seven fractures occurred around the prosthesis, and

**Table 2**
**Medical Complications**

| | | |
|---|---|---|
| Urinary Tract Infection | 28 | 19% |
| Pulmonary | 17 | 12% |
| Gastrointestinal | 15 | 10% |
| Cardiac | 11 | 8% |
| Decubitus Ulcers | 9 | 6% |
| Pulmonary Emboli | 5 | |
| Cerebrovascular | 4 | |
| Renal | 2 | |
| Urinary Retention | 2 | |
| Deep Venous Thrombosis | 1 | |
| Acute Psychosis | 1 | |
| Total | 95 | 65% |

**Table 3**
**Surgical Complications**

| | | |
|---|---|---|
| Deep Wound Infection | 7 | 4.8% |
| Superficial Wound Infection | 4 | 2.7% |
| Total Infection Rate | 11 | 7.5% |
| Dislocations | 7 | 4.8% |
| Closed Reduction Successful | 3 | |
| Revision | 2 | |
| Died with Reduction | 1 | |
| Chronic Dislocation | 1 | |

**Table 4**
**Complications—Death**

| | | |
|---|---|---|
| Died During Hospitalization | 26 | 18% |
| Died Within Three Months | 29 | 20% |
| Died Within Six Months | 37 | 25% |
| Died Within One Year | 45 | 31% |
| Died Within Two Years | 53 | 36% |
| Died Within Four Years | 65 | 45% |

**Table 5**
**Roentgenograms**

Criteria for Loosening
1. Radiolucency Around the Prosthesis
2. Sclerosis at the Tip of the Prosthesis
3. Cement Fracture
4. Distal Migration at the Calcar

| | Cemented | Uncemented | Total | Percent |
|---|---|---|---|---|
| Loosening | 2 | 11 | 13 | 12 |
| Acetabular Protrusion | 1 | 4 | 5 | 3 |
| Varus Positioning | 5 | 32 | 37 | 25 |
| Fractures | 1 | 9 | 10 | 6.8 |
| Joint Space Narrowing | 4 | 23 | 27 | 25 |

our of these were treated with protected weight-earing. Two were treated in traction, and one with a igh lacer.

Three fractures occurred during the operative rocedure. Four occurred within three months of peration, and three occurred after more than six onths.

All three patients treated in traction died within three onths of their fracture. One patient treated peratively, died from the operative procedure. Three atients died later from unrelated causes, and three emain alive.

**eaths**

Twenty-six (18%) patients died during the ospitalization. (Table 4). Three additional patients urvived less than ninety days, and eight more, less than x months. Thus, 109 (74%) were available for six month ollow-up. A total of forty-five patients were dead within ne year of operation, fifty-three within two years, and xty-five within four years. Thus, 45% of 146 operated atients could be documented as deceased.

**ause of Death**

Twenty-two patients succumbed to respiratory illness, fteen to cardiovascular disease, seven to neoplasms, six strokes, and one to a gastrointestinal bleed.

Twelve deaths (20%) were from sepsis, six of which ere from deep wound infections. Two patients eveloped fatal pulmonary emboli.

**oentgenograms**

Roentgenograms made an average of eighteen onths after operation in 109 patients, showed evidence f loosening in thirteen (12%) patients. (Table 5). A fference in loosening was not documented between emented and uncemented prostheses.

Only five patients had definite signs of acetabular rotrusion. Only one patient with protrusion had sabling symptoms, and pain was no worse in those atients with radiographic evidence of loosening.

Radiographic joint space narrowing occurred in venty-seven (25%) compared to the contralateral side. here was no direct correlation of this radiographic nding with clinical symptoms. The use of a cemented rosthesis did not alter the frequency of this occurrence.

Varus positioning of the prosthesis was present in irty-seven (25%) patients but was not associated with increased rate of complication.

**iscussion**

The results and complications do not differ gnificantly from many other investigators.[3-6] Clinical nd radiographic differences between the cemented nd uncemented hemiarthroplasties were not seen in is series. The fact that just fifty-nine percent of our atients ever ambulated postoperatively without sistance and that no patient under sixty ever became a ood ambulator may be important in this finding. The lemma of cemented versus uncemented hemi-throplasty remains unsolved in the literature.[3-5] The dditional operating time and expense as well as the inherent difficulties that might arise in eradicating the cement should infection, fracture, or need occur for revision surgery, do not justify the routine use of cement in our patients.

The incidence of fracture at surgery and postoperatively was similar in our patients to those reported by others.[3-5] Although some authors have reported successful results with traction for this complication our patients all died within three months of their fracture when this method was used and more ambulatory methods seemed preferable.[3-5]

Simultaneous, bilateral femoral neck fractures are extremely uncommon. In eight of nine previously reported and our one case, the patients were men.[7] Most cases have occurred in young patients with seizures or major trauma, but our one patient was elderly (age 87) and had only minor trauma. Delay in diagnosis is not uncommon. Previous investigators have generally reported fixation of one fracture at a time, but one instance of bilateral Knowles pinning was successfully accomplished under one anesthetic.[7] Our patient is to our knowledge the first reported to undergo bilateral hemiarthroplasty under a single anesthetic for simultaneous bilateral femoral neck fractures.

**Acknowledgement**

I would like to thank Herbert J. Louis, M.D., George S. Woodard, Jr., Howard P. Aidem, Ranjit Bisa, M.D., and the other attending orthopedic surgeons at Maricopa Medical Center for guidance.

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Special Article

# Drug Use Trends in Phoenix, Arizona: June 1982 Report to the NIDA-CCG

Deborah L. Rhoads, Ph.D.

## Heroin

All indicators point to a stabilized level of heroin use in the Phoenix SMSA. Treatment admissions remain at basically the same level since early 1980. Following a brief upsurge in early 1981, emergency room mentions returned to their earlier level. Heroin-related deaths have remained low and stable since 1977. Concurrently, the purity of Mexican brown heroin has stabilized at around three percent (.22 - 16%), while price remains fixed at $50 per gram. The CODAMA outreach worker reports that available heroin is of very poor quality and the Drug Enforcement Administration states that they are seeing no white heroin at all in the Phoenix area. DEA reports total purchases and seizures of 64 ounces, 3 grams during the period of January 1981 through April 1982. In a special analysis, five of these seizures were found to be high in monoacetylmorphine (1.1 - 36%). This is a significant finding because heroin purity is usually gauged using diacetylmorphine. Of the 32 heroin dealers intercepted during this same time period, 23 were Mexican, four were Black, and five were Anglo. Thirty of the dealers were male and two were female. The Phoenix Police Department seized or purchased four pounds of heroin in 1981, compared to three pounds in 1980. They found heroin being sold on the street as balloons containing 1/8 ounce, with purity less than 3%, priced at $150.

Clients entering heroin treatment during the first five months of 1982 were predominantly male (67%) with a four percentage point increase in females since early 1981. There were very few differences in the characteristics of the males and females. Ages ranged from 17 to 52, with an average age of 31 for the males and 29 for the females. Of the males, 59% were White, 31% Hispanic, 9% Black and 1% American Indian. The females were more likely to be White (67%) and less likely to be Hispanic (27%), with 8% being Black. The majority of both males and females were unemployed (63% and 62%, respectively). More females than males were working part-time (12% versus 5%). The average education level was 12 years for males and 11 years for females. Average age of first use was 19 for the males and 20 for the females. Thirty-seven percent of the males and 34% of the females reported no prior admissions for treatment. Forty-f
percent of the males and 42% of
females reported using heroin more th
once a day. There were no differences
the number of arrests in the previous
months, with both males and fema
averaging one arrest.

## Cocaine

Cocaine admissions for treatment h
increased steadily since early 19
Following a dramatic increase in ea
1981, emergency room mentions app
to be stabilizing at the higher lev
Cocaine ranked fourth in drug-rela
crisis episodes reported by Terros dur
January through May 1982. Cocaine a
quadrupled its showing from late 1981
early 1982 in the TASC urinalysis repo
A biennual survey of high school stude
conducted by the Phoenix Newspape
Inc. in 1981 showed that, *of students w*
*report any drug use,* 17% reported use
heroin, morphine or cocaine. T
represents an increase from 13% in 1
and 5% in 1977. DEA reports that coca
purity is remaining level at 40% to 6
and is selling for $2500 to $4000 per ou
and $30,000 to $45,000 per pound. T
Phoenix Police Department reported
arrests for sale, manufacture
possession of, heroin, opium, or coca
in 1981. Arrests jumped from 78
January-June to 227 in July-Decemb
The CODAMA outreach worker report
greater injection of cocaine, and youn

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From: CODAMA Services, Inc., Phoenix, Arizona. Reprint requests to Deborah L. Rhoads, Ph.D., Environmental Behavioral Consultant, 3420 E. Shea Blvd., #231, Phoenix, AZ 85028. This paper was presented to the June 1982 meeting of the National Institute on Drug Abuse-Community Correspondents Group.

ds using cocaine of low quality. Clients ntering cocaine treatment during the rst five months of 1982 were redominantly male (78%). The average lucational level was 12 grades, with 37% porting more than a high school lucation. Female clients were slightly ounger than the males, with a mean age 25, compared to 28 for the males. males were also more likely to be White 3% versus 74% of males) and to have ed cocaine five years or less (67% versus % of males). Fourteen percent of male caine clients were Black, but there ere no Black female clients. Twelve rcent of male clients were Hispanic mpared to 17% of female clients.

### nphetamines

Amphetamines continue to show a eady rise in treatment admissions since 80. Emergency room mentions remain ble following a dramatic increase in rly 1981. Amphetamines rank seventh all emergency room mentions. DEA ports closing one methamphetamine since December 1981. The Phoenix ewspapers, Inc. survey of high school idents found that, *of the students who ported any drug use*, 46% reported ng amphetamines. This represents an crease from 28% in 1979 and 16% in 77. Clients entering treatment for phetamine use are primarily male %), with 28% of all clients 18 years old younger. Average age for male clients 26 and for female clients is 25. Seventy- percent of male clients are White, 11% spanic, 9% American Indian and 2% ck. Eighty-six percent of female clients White, 7% are Hispanic and 7% are ck. Forty-three percent of male clients ported using amphetamines for five ars or less, compared to only 29% of nale clients. Amphetamines ranked th in Terros drug-related crisis isodes, a drop from late 1981. The tims were primarily White, in their rly to mid twenties and evenly divided tween males and females.

### nalants

Treatment admissions for inhalant use more than doubled from the first f of 1981 to the last half, then doubled ain in the first five months of 1982. This rease is partially due to more outreach orts in inhalant abuse and more ograms accepting inhalant abusers as ents. Other indicators, however, point an actual increase in inhalant use. ergency room mentions for paint reased from four in the first half of 1981 29 in the second half. Terros crisis sodes involving inhalants doubled m late 1981 to early 1982. These crisis tims were mainly males in their mid- ens to mid-twenties, with slightly more panics than Whites. The Phoenix wspapers, Inc. survey of high school dents indicated that, *of those students o reported any drug use*, 16% were using inhalants. This represents an increase from 12% in 1979 and 5% in 1977. Clients entering treatment for inhalant abuse during the first five months of 1982 were primarily male (61%), but included more females (39%) than is found in many other drug categories. Forty-nine percent of entering clients were 18 years old or younger. Females were significantly younger than the males with an average age of 17, compared to 22 for the males. The majority of both males and females were Hispanic, 72% and 79%, respectively. Seven percent of the males and 11% of the females were American Indians. Of the males, 72% reported using inhalants for five years or less and 42% reported using inhalants for two years or less. Of the females, 89% had used inhalants for five years or less while 61% had used for only two years or less.

### Other Drug Use Indicators

Treatment admissions for marijuana remain at a level of about half that seen in early 1981, with a stable pattern of emergency room mentions. However, admissions data indicates an increased use of hallucinogens, supported by emergency room mentions for LSD which increased from 16 to 22 during 1981. The Phoenix Newspapers, Inc. survey of high school students showed that, *of students who reported any drug use*, 17% used hallucinogens. This represented an increase from 12% in 1979 and 5% in 1977. It should be noted, however, that prior to 1979, the hallucinogen question referred only to LSD and was expanded in 1979 to include psilocybin, etc. Therefore, some of the apparent increase could be artifactual. PCP admissions for treatment, PCP emergency room mentions and reported use of PCP by high school students indicate that its use has stablized and may even be declining.

Barbiturates represent the number one cause of drug-related crisis episodes reported by Terros during the first five months of 1982, followed by other sedatives and hypnotics, hallucinogens, cocaine, tranquilizers and amphetamines. The majority of victims of barbiturate, other sedative/hypnotic and tranquilizer crisis episodes were females, with a significant number being suicide attempts. Males comprised the majority of hallucinogen and cocaine episodes. The CODAMA outreach worker also reports increased use of barbiturates by young adults and adults.

Urinalysis reports from the criminal justice diversionary program (TASC) indicate a dramatic increase from late 1981 to early 1982 in methadone, morphine, cocaine, meperidine, hydrocodone, and Talwin.

Turning now to controlled prescription drugs, the Arizona Department of Public Safety reports that in 1981 Arizona ranked fifth in the nation in consumption of controlled substances (following Florida, Nevada, Ohio, and Utah). Arizona ranked third in consumption of Percodan, fourth in Pentobarbital, sixth in Demerol, seventh in morphine, and ninth in both Secobarbital and methadone. Also according to DPS, 198 persons were arrested in 1981 for obtaining controlled prescription drugs by fraud or deceit. Twenty-five percent of these persons were medical professionals. The top five controlled drugs purchased from wholesalers in Arizona in 1981 were: Tylenol No. 3 and No. 4, 4,216,000 units; Valium (5 mg and 10 mg.), 4,201,700 units; Percodan, 2,509,640 units; Percocet, 1,463,760 units; Dalmane (30 mg.), 1,273,300 units. These do not include purchases from wholesalers outside the state or direct purchases from pharmaceutical manufacturers. Prescription drug thefts in Arizona during January through April 1982 were primarily Percodan, followed by Valium, Ritalin, meperidine and codeine-in-combination.

Finally, the Arizona legislature in its last session passed three bills which are designed to reduce drug use, especially by youth. HB2052 is the "look-alike" drug bill. Signed into law by the Governor, this bill is intended to outlaw the sale and possession of legal stimulants and ersatz substances which are packaged to look like illegal pharmaceuticals. HB2093 is the drug paraphernalia bill. Signed by the Governor into law, this bill outlaws the possession, manufacture, delivery and advertisement of drug paraphernalia. Drug paraphernalia under the bill is anything which the possessor intends to use as drug paraphernalia or which could be intended for use by someone as drug paraphernalia. HB2187 was signed into law by the Governor. The bill makes it illegal to hire a minor to transport or sell dangerous or prescription drugs. It also makes it illegal to sell or transfer dangerous or prescription drugs to a minor.

### Summary

To summarize, what the Phoenix area is currently seeing are stablized levels of heroin use and an apparent decrease in marijuana use. However, we are also experiencing a tremendous increase in the use of inhalants, cocaine and amphetamines. There are some signs of an increase in hallucinogens but it is too early to tell if this will be a significant trend. Finally, Arizona continues to experience problems with the overuse of controlled prescription medicines.

### Acknowledgment

The author would like to thank Gail Beauchamp of the Drug Enforcement Administration, Sgt. Bob Stockdale of the Arizona Department of Public Safety, and the staff of CODAMA Services, Inc. and its subcontracting agencies for their assistance in preparing this report.

# THE MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO
## XXX Annual Meeting • November 10-13 • Hotel Real de Minas • Guanajuato, Gt
## Partial Program

*NOTE: Upon arrival presentors should check the final program, as dates and times may vary from this partial program.*

**Wednesday, November 10**

| | |
|---|---|
| 3 p.m. - 7 p.m. | **Registration** |
| 8 p.m. - 9 p.m. | **Opening Ceremonies**<br>Cocktail Party |
| 9 p.m. | **Special Lecture:**<br>"Guanajuato and Mexican Independence"<br>Dinner to Follow |

**Thursday, November 11**

| | |
|---|---|
| 7 a.m. - 1 p.m. | **Registration** |
| 7 a.m. - 8 a.m. | **Breakfast for Participants** |
| 8 a.m. - 9:30 a.m. | **Symposium**<br>Mesenteric Thrombosis<br>*Felix Torres Herrera, M.D., Surgeon, Guadalajara, Jalisco*<br>*Donald Davis, M.D., Surgeon, Phoenix, Arizona*<br>*Salvador Ahued, M.D., Surgeon, Guadalajara, Jalisco*<br>*John G. McGregor, Jr., M.D., Gastroenterologist, Tucson, Arizona* |
| 9:30 a.m. - 10:30 a.m. | **Special Lecture**<br>The Physician and Nuclear War<br>*Quito Osuna Carr, M.D., Dixon, New Mexico* |
| 10:30 a.m. - 10:50 a.m. | **Coffee Break** |
| 10:50 a.m. - 1:30 p.m. | **Regular Program**<br>These fifteen minute presentations with five minutes for discussion will be precisely timed.,A full complement of Regular Program papers *from Mexico* will alternate with the U.S. papers in the final program.<br>Cerebral Revascularization<br>*L. Philip Carter, M.D., Phoenix, Arizona*<br>Scrotal Swelling in the Pediatric Patient—A Radiographic Diagnosis?<br>*Edgardo H. Hernandez, M.D., Phoenix, Arizona*<br>Cosmetic Approach to the Median Sterotomy Incision<br>*Richard G. Sanderson, M.D.*<br>*2Christopher T. Maloney, M.D.*<br>*Joseph D. Marco, M.D.*<br>*Burt S. Strug, M.D.*<br>*Tucson, Arizona*<br>Early Experience in Thermography<br>*E. Lawrence Ganter, M.D., Phoenix, Arizona* |
| | **Social Program** |
| La Tarde | Casino D'Roche |
| 7 p.m. | "Callejoneada" (Alley Touring) and "Estudiantina in Guanajuato" (Don Quijote) |

**Friday, November 12**

| | |
|---|---|
| 7 a.m. - 8 a.m. | **Breakfast** |
| 8 a.m. - 9:30 a.m. | **Symposium**<br>The Care of the Unconscious Patient<br>*Herbert Simonson, M.D., Emergency Medicine, Phoenix, Arizona*<br>*Jorge Ochoa Altamirano, M.D., Neurosurgeon, Guadalajara, Jalisco*<br>*Robert A. Baratz, M.D., Anesthesiologist, Phoenix, Arizona*<br>*Robert Flores Montes, M.D., Internist, Guadalajara, Jalisco* |

| | |
|---|---|
| 9:30 a.m. - 10:30 a.m. | **Special Lecture:**<br>Drug Addiction in the Adolescent<br>*Ramon Sanz Munoz, M.D., Guadalajara, Jalisco* |
| 10:30 a.m. - 10:50 a.m. | **Coffee Break** |
| 10:50 a.m. - 1:30 p.m. | **Regular Program**<br>These fifteen minute presentations with five minutes for discussion will be precisely timed. A full complement of Regular Program papers *from Mexico* will alternate with the U.S. Papers in the final program.<br>Rheumatology in China<br>*Harry E. Thompson, M.D., Tucson, Arizona*<br>Medical and Surgical Applications of the Low Intensity X-ray Imaging Scope (Lixiscope)<br>*William J. Tansey, M.D., Downers Grove, Illinois*<br>Long-term Results of Esophageal Anti-reflux Prosthetic Surgery<br>*Jean Pierre Angelchick, M.D., Phoenix, Arizona* |
| 1:30 p.m. | **Social Program**<br>President's Luncheon and Tour of San Miguel de Allende |
| 9 p.m. | Concert at Teatro Juarez |

**Saturday, November 13**

| | |
|---|---|
| 7 a.m. - 8 a.m. | **Breakfast** |
| 8 a.m. - 9:30 a.m. | **Symposium**<br>Collagen Disease<br>*Humberto Orozco Alcala, M.D., Internist, Guadalajara, Jalisco*<br>*James Parsons, M.D., Internist, Tucson, Arizona*<br>*Javier Orozco Alcala, M.D., Internist, Guadalajara, Jalisco*<br>*Oscar Gluck, M.D., Internist, Phoenix, Arizona* |
| 9:30 a.m. - 10:30 a.m. | **Special Lecture**<br>Immunology at the Bedside<br>*Antonio Catanzaro, M.D., Assistant Professor of Medicine, University of California at San Diego, San Diego, California* |
| 10:30 a.m. - 10:50 a.m. | **Coffee Break** |
| 10:50 a.m. - 1 p.m. | **Regular Program**<br>These fifteen minute presentations with five minutes for discussion will be precisely timed. A full complement of Regular Program papers *from Mexico* will alternate with the U.S. Papers in the final program.<br>The Adequacy of Hypothermia in the Protection of the Myocardium during Cardiac Surgery<br>*Leighton Fisk, M.D., Phoenix, Arizona*<br>Craniosynostosis<br>*George T. Hoffmann, M.D., Phoenix, Arizona*<br>Management of Penetrating Wounds of the Heart and Great Vessels<br>*Carlos H. Corral, M.D.*<br>*Adalberto C. Gonzales, M.D.*<br>*Harry W. Hale, M.D.*<br>*Phoenix, Arizona* |
| 1 p.m. - 2 p.m. | **Business Meeting** |
| 2 p.m. - 4 p.m. | **Farewell Luncheon Fiesta** |

The Thirtieth Annual Scientific Meeting of the United States and Mexico is sponsored by the Tucson Hospital Medical Education Program. As an accredited organization, Tucson Hospital Medical Education Program, Inc. certifies that this program meets the criteria for 15 hours of Category 1 continuing medical education as credit towards the Physician's Recognition Award of the American Medical Association. In addition the program is certified for 15 hours of Category 1 credit by the American Academy of Family Physicians.

**For additional information contact: Carolyn Parsons, Executive Secretary, 3161 North Pantano Road, Tucson, Arizona 85715. (602) 885-1769.**

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# Fee for Service or Free Service?

During a recent confrontation in a doctor's lounge at one of the local hospitals I was placed in the position of trying to defend moderation in physician charges. Two physicians took the position that we must keep our fees high to attract physicians to the private health care delivery system. In so doing, their argument ran, we will create a substantial financial incentive for physicians *not* to join prepaid health maintenance organizations. They furthermore made the point that a physician's level of success bore no relationship to the fees charged. Patients went to a successful physician regardless of whether he was expensive. The fallacy of this argument is, of course, that in so doing we will be pricing ourselves out of the market, since the vast majority of the population will not be able to pay the higher insurance premiums necessitated by these higher fees. Thus there will be fewer and fewer patients available for these physicians to treat, resulting in increasing competition for an ever-diminishing supply of patients. This no doubt will result in significant physician frustration and a decline in their income, resulting in their perception that the prepaid health care delivery system may be a more attractive alternative. Thus they will come to the same conclusion their patients already have.

In this vein the recent United States Supreme Court decision declaring that the Maricopa Foundation for Medical Care was violating the Sherman Anti-Trust laws was indeed a blow to cost containment. These plans were able to keep themselves competitive within the marketplace by limiting costs *below* those considered in some instances "usual and customary." In do doing, premiums for these policies rivaled those of prepaid health care plans and were a major force in making the private health care delivery system a responsible competitor within the marketplace. With the loss of the ability to limit fees, the cost of such foundation policies will no doubt increase. The recent increases in health care premiums by the "Blues" and the droput of some other insurance carriers in this field attest to the difficulty in turning a profit. The rapid rate of increase in service and technology is f outstripping the ability of the avera wage-earner to pay for these servic except in a rationed health care syste i.e., prepaid medical care or nation health insurance such as Medicar However, even within these plans the have been difficulties. Some federall funded health maintenance organiz tions have failed, and there is a push decrease benefits under Medicare.

What then are we to do, those of us st in the private care sector? I'm afraid, fro my perspective, we are in a ship on roug waters, being buffeted by the winds wi an ineffective rudder. Each movement w make results in a response which different than our intent. There is yet clearcut path on which to make speed. think the safest thing we can do at th time is to try to remain competitive closely monitoring our costs to keep ou fees as low as possible. This will hopeful lower the costs for insurance compani and will enable them to lower the premiums for private health insuranc which will in turn allow them to maintai a competitive stance in the healt insurance field. If "fee for service" is t survive and continue to be th predominant mode of health car delivery in our country, we must all chi in and help. Outlandish fees will sink th ship!

Marshall B. Block, M.D.
Editor

# Nutrition Education in the College of Medicine

Since the time of Hippocrates, th attention of physicians has often bee drawn to the role of diet in the preventio and treatment of disease. Never has thi relationship been more hopeful an challenging than today. The role o dietary factors in the etiology an prevention of our two greatest causes o death—heart disease and cancer—i becoming clearer. The development o intravenous hyperalimentation ha revolutionized our ability to car medically and surgically for patient

hose conditions otherwise would have
arved them of vital nutrients before
fective treatment could be delivered or
e body have time to heal itself.

And yet there remain many challenges.
ne heterogeneous group of conditions
e label "obesity" contribute to illness
nd early mortality from diabetes,
ypertension and related maladies; and
ur success at treating obesity is dismally
w. Debilitating and sometimes life-
reatening eating disorders including
norexia and bulemia are being
entified with increasing frequency
mong otherwise-healthy young adults.
nd diet is of great importance in the
ublic mind. News media every day
roclaim new relationships between diet
nd health, and diet books routinely lead
e bestseller list. Patients want to be able
turn to their doctors for accurate
formation about nutrition.

In response to these challenges, the
niversity of Arizona, like many Colleges
Medicine, has experienced significant
urricular development in the area of
utrition education in the last several
ears. This growth has come about
ecause of faculty with research and
inical interests in nutrition as well as a
gh level of interest on the part of
edical students.

Nutrition research and education is not
entered in any single department in the
ollege of Medicine; interest and
xpertise in nutrition is found among
culty in several basic and clinical
ience departments. Thus, medical
udents at the University of Arizona find
utrition integrated into a number of
quired courses.

In the first year, nutritional biochem-
try is given major attention in the
equired biochemistry course and
utrition is one of several core problem-
lving areas for the Family and
ommunity Medicine section of the
equired Preparation for Clinical
edicine course. In the third year,
quired clerkships in Pediatrics, Family
actice, Internal Medicine and Surgery
ldress the nutritional aspects of patient
re in the larger context of clinical
edicine.

Elective courses for senior students
clude Diet in Disease, Community and
ternational Nutrition, Research, and
dependent studies in Nutrition. New
urse offerings in 1981-1982 included an
nrichment elective" in nutrition for
st-year medical students and a three-
eek, full-time course in International
ealth for senior medical students and
aduate students which includes
bstantial emphasis on problems of
alnutrition in the developing world.

Research and Independent Studies
ectives are usually full-time, highly
dividualized, and may be patient-care
nonclinical in nature. Medical students have contributed to the school's programs in nutrition through individual projects ranging from the very basic (as in laboratory research on the metabolism of essential nutrients) to the applied (for example, the development of a computerized program for dietary analysis for patient counseling).

Postgraduate medical education includes full and part-time elective rotations in nutrition available to Family Practice, Preventive Medicine, and Pediatrics residents. Nutrition topics also receive attention in the context of continuing medical education programs, including mini-residencies.

At the University of Arizona, graduate degree programs in nutritional sciences are administered by a university-wide Graduate Group on Nutritional Sciences; thirteen College of Medicine faculty from the Departments of Family and Community Medicine, Internal Medicine, Pediatrics, Surgery, and Biochemistry are members of this 45-person multidisciplinary group. Graduate students in nutritional sciences have the opportunity to work with these faculty in a wide variety of research projects. University Hospital is the site of the only postgraduate internship for dietitians in the state; thus medical students and faculty have the opportunity to collaborate with dietetic interns and with their supervising clinical dietitians.

The faculty of the College of Medicine reflects the variety of applications of nutrition in medicine, with emphasis in such diverse areas as vitamins in cancer, neonatal and developmental nutrition, metabolism, obesity and eating disorders, and international nutrition. Medical students have the opportunity to acquire a working knowledge of this important field and the tools to continue their learning in the field of nutrition.

Gail G. Harrison, Ph.D.
Associate Professor, Family
and Community Medicine, Pediatrics
and Nutrition and Food Sciences

Louis J. Kettel, M.D.
Dean, College of Medicine

# Chairman's Report Legislative Committee

Your Legislative Committee is charged by our bylaws to "represent the Association in securing legislation in the interest of public health and of scientific medicine, and in preventing the passage of, or securing the repeal of legislation contrary to those interests."

If one were asked to define the single most important function the Association performs for its membership certainly its interaction in the legislative-political arena would or should take high priority. It is the one area where consensus and unity are imperative to properly articulate medicine's view into the problems of health care. So you may well ask—how are we doing? Have we been successful and if not—why not? As your newly appointed chairman of this committee, I've been asking the same questions. Personally, I think we need more than a weight change in oil. We're going to need a good old fashion motor over-haul. Can we do it? I'm optimistic that we can and indeed, the effort is in progress. It will take some time to properly retune, and it will demand an increased commitment of those involved. Medicine can no longer play ostrich to the political process. We will have to accept the responsibilities and criticism that accompanies a higher profile.

The first steps of such reorganization were undertaken last year in the administrative staff with additions of Kevin Walker, and improved legislative contact and representation by lobbiest, Allan Stanton. Closer interaction and responsiveness to county societies and specialty groups will be mandatory. We will soon implement those changes needed at the doctor level to better acquaint legislators with our views and enable them more ready access to such views. In short, we will need to alter the existing image to one representing credibility, truth, and responsiveness. In the process medicine need not sacrifice its own self-interest.

The horizons of such commitment are vast indeed. The winds of delicensure blowing from our western neighbor state of California are already upon us, and the charlatans of the street corner await the full impact of the "freedom" of a "competitive" and deregulated health care system. We will need to speak effectively and forcefully to views protecting the public interest and the quality of health care. More importantly, we will have to convince legislators of the prudency of such views, even in the face of self-interest.

More timely and effective communication means will be initiated to bring the issues and legislative committees decisions for action to your attention. Activity in the allied health field, replacement of present certificate of need laws, with improved local community efforts, and monitoring activity in the new indigent health care program represent only the tip of the iceberg of legislative concerns.

Organizational restructuring is easy (though sometimes plotting) but without content (which is membership) commitment, and participation, it remains but an empty shell. I believe the goals sought are worth our best effort. We're going to "go" for it.

Clyde W. Kurtz, M.D.
Chairman, Legislative Committee

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## Briefly Noted

**James G. Hill, M.D.,** Tucson, has be named Clinical Director of Wilm Psychiatric Hospital in Tucson. Dr. Hill past president of the Tucson Psychiat Society and currently serves as secret of the Arizona Psychiatric Society.

**Wayne E. Kuhl, M.D.,** Phoenix, has be elected to fellowship in the 54, member American College of Physicia Dr. Kuhl will be honored during t convocation ceremony at the colleg annual meeting in San Francisco n April.

**Jeffrey I. Selwyn, M.D.,** Tucson, has be selected to head the physicians' section the 1982 United Way of Greater Tucs campaign.

**Martin E. Silverstein, M.D.,** of t University of Arizona's Department Surgery, has been reappointed as visiting scholar of Georgetov University. Dr. Silverstein's work duri his sabbatical year on the applications clinical and basic trauma pathophy ology to disaster and mass casua planning has stimulated both acaden and governmental interest in t application of these studies to natio and foreign policy. Dr. Silverstein will spending part of the year in Euro analyzing European emergency systen

**Edward C. Percy, M.D.,** Associ Professor and Director of Spo Medicine at the University of Arizo College of Medicine served on the Dr Testing Commission for the Commc wealth Games that were held in Brisb Australia, in September 1982.

**New Members**

The Arizona Medical Associati welcomes the following Physicians w have become recent members.

**Maricopa**

**Mark A. Baldree, M.D.**
Otolaryngology
1010 East McDowell Road, Phoenix
Loyola Medical School - 1977

**Leslie Belsher, M.D.**
Gynecology
7354 East Fourth Street, Scottsdale
Stanford University - 1962

**Pima**

**Richard T. Bradley, M.D.**
Psychiatry
801 South Prudence, Tucson
Tufts University - 1976

**Harry S. Calvino, M.D.**
General Practice
410 West Los Altos Road, Tucson
University of Arizona - 1981

**S. Kent Callahan, M.D.**
Internal Medicine/Oncology
2001 West Orange Grove Road, Tucson
University of Vermont - 1976
**Jack G. Corcoran, M.D.**
Internal Medicine
2222 North Craycroft Road, Tucson
University of Arizona - 1976
**Edgar Desser, M.D.**
Internal Medicine
1601 North Tucson Boulevard, Tucson
University of Amsterdam - 1956
**R. Screven Farmer, M.D.**
Anesthesia
P. O. Box 36538, Tucson
Emory University - 1979
**Glen A. Halvorson, M.D.**
Physical Medicine
2102 North Country Club, Tucson
University of Washington - 1976
**Mark A. Hendrickson, M.D.**
Internal Medicine
Thomas-Davis Clinic, Tucson
University of California,
San Francisco - 1978
**Chris Karabina, M.D.**
Radiologist
5800 North Pontotoc, Tucson
Ohio State University - 1977
**Michael R. Manning, M.D.**
Radiologist
5200 East Grant Road, Tucson
University of Arizona - 1973
**James McFarren, M.D.**
Pediatrics
Thomas-Davis Clinic, Tucson
University of Cincinnati - 1973
**Louisa I. Piccone, M.D.**
Gynecology
601 North Tucson Boulevard, Tucson
Wayne State University - 1944
**Daniel F. Reardon, M.D.**
Pediatrics
231 Camino De Santa Valera, Tucson
Georgetown University - 1964
**Thomas C. Rothe, M.D.**
General Practice
4065 Camino de la Colina, Tucson
Medical College of Ohio - 1977
**Robert E. Selby, M.D.**
Dermatology
6235 Camino Escalante, Tucson
University of Arizona - 1980
**Thomas H. Sethney, M.D.**
Urology
izona Health Sciences Center, Tucson
University of Oklahoma - 1972
**Silvain Sidi, M.D.**
Internal Medicine
310 North Wilmot, Tucson
iversity of Montpellier, France - 1972
**John R. Siler, M.D.**
Radiology
3170 East Fort Lowell, Tucson
University of Arizona - 1977
**Mark A. Strumph, M.D.**
Internal Medicine
999 South La Canada, Green Valley
University of Connecticut - 1979
**H. Hunter Yost, M.D.**
Psychiatry
5342 North Paseo Serno, Tucson
University of Nebraska - 1978

### New Resident Members

**Charles M. Agee, M.D.**
Good Samaritan Hospital, Phoenix
University of Washington - 1982
**David B. Edwards, M.D.**
Maricopa Medical Center, Phoenix
Jefferson Medical College - 1982
**Gary S. Fentiman, M.D.**
Good Samaritan Hospital, Phoenix
University of Oregon - 1979
**Robert C. Hajosy, M.D.**
Maricopa Medical Center, Phoenix
Cornell University - 1982
**David C. Johnson, M.D.**
Maricopa Medical Center, Phoenix
University of Arizona - 1982
**Steven L. Johnson, M.D.**
Maricopa Medical Center, Phoenix
University of Utah - 1982
**Michael L. Jones, M.D.**
Phoenix Indian Medical Center, Phoenix
Southwestern Medical School
of Dallas - 1982
**Katherine S. Lichtsinn, M.D.**
Maricopa Medical Center, Phoenix
Indiana University - 1982
**Kevin D. Ludwig, M.D.**
Scottsdale Memorial Hospital,
Scottsdale
Southwestern Medical School
of Dallas - 1982
**James W. McNabb, M.D.**
Scottsdale Memorial Hospital,
Scottsdale
Florida Southern College - 1982
**John P. Meernik, M.D.**
Maricopa Medical Center, Phoenix
University of Iowa - 1982
**Thomas Porter, M.D.**
Scottsdale Memorial Hospital,
Scottsdale
Ohio State University - 1982
**Carla R. Proctor, M.D.**
Maricopa Medical Center, Phoenix
St. Louis University - 1982
**Robert Litwak, M.D.**
Maricopa Medical Center, Phoenix
University of Minnesota - 1982
**Steve R. Norton, M.D.**
Maricopa Medical Center, Phoenix
University of Oregon - 1982
**Hoke H. Shirley, III, M.D.**
Maricopa Medical Center, Phoenix
Tulane University - 1982
**Michael R. Stamps, M.D.**
Maricopa Medical Center, Phoenix
Texas Tech University - 1982
**Michael H. Stumpf, M.D.**
Maricopa Medical Center, Phoenix
Indiana University - 1982
**Kevin R. Wandler, M.D.**
Maricopa Medical Center, Phoenix
University of Iowa - 1982

### Student Member

**Barbara J. Miller**
University of Arizona, Tucson

**H.G.Y. Nath, M.D., Cardiologist from Casa Grande (left) and Dr. Barcz at the ACLS course. (In our September issue page 592 we incorrectly identified this photo.)**

Medical History

# Extracts from the Publications of the Arizona Medical Association

(Continued)

John W. Kennedy, M.D.

**Small Pox Vaccination in the New World**

We begin this sixth installment in the year 1927 with a discussion of smallpox that appeared in *Southwest Medicine*. The *first vaccination* against *smallpox* in the *United States*, according to the Spanish Archives in New Mexico, was introduced into the Province of New Spain in 1804. Dr. Edward Jenner had announced this type of cowpox vaccination as effective against smallpox in 1799. Although it is not mentioned in this abstract, this was probably the result of the Balami expedition which was sent out from Spain under the charge of some medical officers. In the expedition there was a company of nuns and orphaned children and the vaccine was kept alive by passing it from child to child. That is how it was brought to the New World and subsequently used all over the Spanish domain in Central America, South America and on to the Phillipines.

**W. V. Whitmore, M.D. and Handy vs. Heney**

Dr. W. V. Whitmore of Tucson wrote about his medical experiences and conditions in Arizona. He stated that in 1891, W. C. Handy was killed by Francis J. Heney following an argument about whether Heney should represent Mrs. Handy in divorce proceedings. Handy didn't die immediately, and he would not allow any of his fellow Tucson physicians to operate on him. He sent for Dr. Goodfellow to come from Tombstone. He drove a special engine on the railroad. Goodfellow found multiple perforations of the small bowel and the patient died on the table. *(No doubt the surgery was a success, notwithstanding).*

Dr. Whitmore stated that he was the sixth physician to arrive in Tucson, the others already here were Drs. Fenner, Matas, (the father of Rudolph Matas) Spencer, Goodfellow and J. G. Green.

Dr. Whitmore served six months as Dr. Goodfellow's assistant and aided him in the performance of the first prostatectomy in 1893. Dr. Goodfellow left for San Francisco in 1896.

In the 1880's Tombstone was the largest city in Arizona claiming 10,000 inhabitants, Tucson had 5,000 and Phoenix 3,000.

**Around and About**

Dr. F. B. Sharpe of Phoenix returned from a year of postgraduate work at Dr. DeLee's Lying-In Hospital in Chicago. He announced his practice would be confined to obstetrics. *(Probably the first physician to so limit his practice in Phoenix and maybe in the whole of Arizona.)*

Dr. R. B. Raney, a recent graduate of Creighton Medical School, was engaged as a resident at St. Joseph's Hospital in Phoenix. A new wing at the hospital had almost been completed and the capacity would be 127 beds.

It may never happen today, but the Board of Medical Examiners of New Mexico barred a certain Dr. Joseph T. Gaines from Denver from further practice in New Mexico on unprofessional grounds of running an advertisment in a newspaper. The attorney general of New Mexico concurred that the Board had the power in this instance.

**Case Reports**

An article by Dr. Mills and Dr. Watkins on x-ray localization of foreign bodies the eye, in which they reported 146 cas and gives some historial background this procedure. They stated that D Francis H. Williams and Dr. Charles I Williams of Boston reported in the *Bosto Medical and Surgical Journal,* August 1 1896 the first eye localization at Roge Laboratory at MIT. They further reviewe some of the x-ray literature on using th means of foreign body localization. D W. M. Sweet of Philadelphia reported c his method of localization in the *Archiv of Ophthalmology,* November 27, 1898

Dr. F. M. Pottenger reported upon th diagnosis of tuberculosis and described physical sign which now carries his nam "If you turn the head to one side the nec muscles pull up the ribs of the opposit side and you will get a higher percussio note on the side away from which th head is turned." *(Percussion of the che in this careful manner is probably one the disappearing arts.)*

In *Southwest Medicine* Vol. XI, on pag 65 begins a symposium on acut appendicitis. The first report was of 2 cases of acute appendicitis operated on St. Joseph's Hospital, Phoenix, in the yea 1924, 1925, and 1926. Of these 200 cases, (22%) were ruptured at the time surgery. There were 15 deaths pos surgery, a rate of 7.5%. In another articl Dr. Joseph Madison Greer commente on the history of the disease noting that had been reported in 1775 in postmortem report, but it was not unt 1886 that the first appendix operation wa performed in the United States by Dr. R. Hall of New York City.

It was reported that the industriou intern at the Arizona Deaconess Hospita Dr. J. D. Hamer, spent Memorial Da weekend in Los Angeles. *(Dr. Hame related that he had no difficulty i entering medical practice in Phoeni after his service at the Deaconess becaus he made it quite clear he was no interested in doing surgery. But he sai those who did surgery or entered int practice to do surgery had a rough tim from the senior practitioners of th community).*

**To His Memory**

The obituary of Logan D. Dameron M.D., 1867-1927 appeared in the Journal Dr. Dameron was the last charter membe of the Arizona Medical Association whicl was organized May 25, 1892. He wa secretary of the Maricopa Count Medical Society when that organizationa meeting took place. The next year he wa secretary of the Territorial Associatio and for many years to come. In that same year, 1892, the first medical practice ac was passed in the state.

But, in 1927 a proposed basic science bill had been defeated in committee. At a meeting of the Maricopa County Medica ociety it was determined to seek an ntirely new medical practice act.

**ersonal Notes**

There was a strong belief by the litorial board that all personal notes oout physicians and medical societies r the four areas represented by the urnal should be included. The most alwart in gathering material were the vo editors from Phoenix, Dr. Watkins d Dr. Brown. These are some samples published material from 1927.

Dr. A. C. Kingsley of Superior moved to oenix. And the next year he was ceiving all the industrial cases from the dustrial Commission. *(A cozy move).*

Dr. A. M. Tuthill of Phoenix recently turned from an extended visit in the st. Between tales of his wrestling bouts th the tiller of a sail boat at Wood's Hole ear Boston, he was willing to talk about s observations on the work of Dr. H. P eForest of New York, upon the spine d Dr. H.R Allen of Indianapolis in the neral field of bone and joint injuries.

Dr. E. Payne Palmer of Phoenix had turned from attendance at the nerican College of Surgeons in Detroit.

Dr. F. C. Jordan of Phoenix had recently turned from his postgraduate work in e east and was now located at 16 E. onroe, where he was to practice the ecialty of obstetrics and pediatrics. His ecialty work was under Dr. Potter of ersion fame, Dr. DeLee of Chicago and th Dr. Marriott in pediatrics.

Dr. Clara P. Seippel Webster, formerly Chicago and now located in Tucson, d been appointed Dean of Women at e University of Arizona.

Dr. P. K. Graybill who had been located Lake Pleasant, in charge of the hospital epartment for the Beardsley Develop- ent Company during the construction a large irrigation dam on the Agua Fria d moved into Phoenix upon the mpletion of the dam. *(The Carl Pleasant am).*

Dr. Harry R. Carson of Phoenix was rred by memory of the dog sleds which rried the diptheria antitoxin from ome to the interior of Alaska enlisted e aid of the United States Government deliver convalescent serum from the ast for a case of poliomyelitis on whom wished to use this method. When ese aviators descended upon the rizona Canal north of Phoenix, they ondered why Dr. Carson had not quisitioned a Navy Department droplane. Dr. Carson secured his rum. The commendable feature of the cident was that in the newspaper counts, which were quite prominent, tention was not attracted from the nportant part of the story by mention of e doctors names and addresses. Dr. arson saw to it that these were omitted. *uch self-advertisement would scarcely e omitted these days.)*

Dr. B. J. Jeffers who had been located in Peoria, but who left here for his old home in Kansas, proved to have been too thoroughly innoculated with Hassayampa water and returned to Arizona and practiced in Glendale.

Dr. H. B. Limberg, formerly of Los Angeles, had located in Casa Grande where he engaged in practice. *(He later inaugurated a group practice which is still in active service.)* In 1928 he opened the first unit of his new hospital. In it six patients could be cared for and it had a fully equipped surgery. A graduate nurse would reside in the hospital.

Dr. John R. Walls, formerly of Holbook, moved his practice to Winslow. Dr. D. Scot Schenck, formerly of Safford moved to Douglas.

Dr. Mary Lawson Neff of Los Angeles was in Phoenix during the first week in January at the Hotel Adams. Dr. Neff visited Phoenix frequently for consultation work in her specialty of functional and organic nervous diseases. *(We have reported on Dr. Neff in other installments and her moving her practice to Los Angeles from Phoenix.)*

**Violet Ray Intensity**

An item was titled "Violet Ray Intensity Report in Tucson." Through the courtesy of the Desert Sanatorium near Tucson, the Tucson Citizen added to its daily weather reports the record of the ultra violet ray intensity for the preceding day. This sanatorium was said to be one of the three places in the United States equipped with a radiometer and the Tucson Citizen claimed prescedence over all other daily newspapers in presenting such climatic information to its readers. *(Fantastic)*

**A Medical Dynasty**

There was an announcement of the death of Dr. John Bryan McNally, who for thirty-two years had practiced medicine in Prescott. He was a charter member of the Yavapai Medical Society. *(He was followed by his son Joseph P. McNally, M.D., a long-time practicing physician and surgeon in Prescott. Dr. Jospeh P. McNally was succeeded by his two sons, Dr. Gerald F. McNally and Dr. Joseph B. McNally. A Prescott medical dynasty).*

It was announced that Dr. R. N. Looney of Prescott had been appointed physician to the Pioneer's Home to succeed the late Dr. J. B. McNally.

**1928 and the Mann Act**

Dr. A. T. Smith of Yuma, a recent arrival in that community, was receiving considerable undesirable publicity over his arrest and imprisonment on a charge of violating the Mann Act. One of the reports in the Yuma Arizona Sun stated that this man was reported by the American Medical Association as not being a medical graduate, as far as they were able to ascertain.

**New Names, New Organizations**

The Arizona Deaconess Hospital of Phoenix changed its name to Good Samaritan Hospital by order of the board of trustees. *(There have been name changes since—a regular fad prevalent in the hospital community).*

In 1928 the Veterans Bureau Hospital, being built in Tucson at the cost of one million dollars, was three-fourths complete. The new hospital was about seven miles from the present hospital at Pastime Park. *(Could some Tucson correspondent please tell us where Pastime Park was located?)*

At a meeting in Tucson the Arizona Public Health Association was organized. Dr. R. B. Durfee of Bisbee was elected president. He was the county health officer for Cochise county. The vice-president was Dr. George Roe of Tucson, the city engineer. The secretary-treasurer was Jane H. Rider, Director of the Tucson State Library.

The Graham County Medical Society was officially organized in Safford, February 10, 1928. The charter members : James W. Morris, M.D., Safford; H. W. Quibb, M.D. Safford; Goerge W. Langdon, M.D., Safford; J. Newton Stratton, M.D., Safford, President; and W. E. Platt, M.D., Thatcher.

The American College of Surgeons realigned their districts so the entire states of Texas, New Mexico and Arizona were one. The 1929 meeting of the district was scheduled to be held in Phoenix. Dr. E. Payne Palmer was the district governor.

**Medical Legislation**

Dr. R. C. Dryden, from Pima County, stated in 1892 he was practicing in Winslow as the local surgeon for the Santa Fe Railroad. He was elected to the legislature; he saw need of medical legislation and conferred with doctors in Phoenix and this led to the organization of the Maricopa County Medical Society and the Arizona Territorial Medical Association was an outgrowth of this. *(This is a new slant on how organized medicine really got off the ground in Arizona. It apparently took some needling from a doctor member of the territorial legislature to get them off their behinds and organize themselves in what was then the largest metropolitan area of the state.)*

Dr. A. C. Carson of Jerome in his presidential address to the Arizona Medical Association in 1928, reported that the basic sciences bill had failed in the legislature that year. He also reported there were 236 members in the state society, and stated the Board of Medical Examiners now contained two allopaths, two homeopaths, one eclectic and one osteopath.

**Defense Fund**

We have discussed this fund quite

throughly in previous installments, but in 1928 it contained a total of $11,427.63. During the past year $400.00 had been spent. "Up to the present time (1928) no plaintiff had recovered against a physican in the state where the society came to his aid and there have been no compromised settlements." *(Those were the days).*

**Under Personals**

Dr. W. V. Whitmore, of Tucson, was awarded an honorary degree of Doctor of Laws by the University of Arizona. He served on the Board of Regents from 1897 to 1899, as treasurer from 1914 to 1917 and as Chancellor from 1917 to 1918.

Dr. George Truman, formerly of Florence, moved to Mesa where he was associated with Dr. Ralph Palmer and Dr. Joseph Madison Greer.

W. Warner Watkins, M.D. was the first physician in Arizona to receive a fellowship in the American College of Physicians. Dr. Holmes and Dr. Randolph of Phoenix installed the first electrocardiographic equipment in Arizona.

**Medical History**

In the historical section of the Journal there were some notes on "Recognition of Pioneers." It stated, In 1892 the Arizona Territorial Medical Association was organized and there is reproduced here a page of signatures of the delegates to the meeting in 1893" and it gives some account of the survivors. Dr. H. A. Hughes said his first major surgery forty years ago in the Salt River Valley was under a cottonwood tree after he saw the inside of the house where the patient resided. This was in about 1888.

**Pathologists, Malta Fever and Smallpox**

On September 10, 1928 there was a meeting at St. Joseph's Hospital, Phoenix. At this time W. W. Watkins discussed a case presented by Dr. Frank Malloy and he began in this manner, "Being what Dr. Palmer (E. Payne) once characterized as a 'damned pathologist' not supposed to know anything about clinical medicine"—he then went on and correctly diagnosed and discussed the brain tumor case.

In an article discussing undulant fever some historical notes were given. In 1918 Alice Evans determined that Malta fever in goats and infectious or contagious abortion in cattle were the same disease. In 1911 Gentry and Ferenbaugh proved the existence of Malta fever in Texas. In 1912 Yount of Prescott reported cases in Arizona. In 1922 Phoenix had an outbreak of undulant fever; it should be remembered that early in this century goats out numbered people in Arizona.

East Farm Sanatorium of the Phoenix Indian School suffered a small outbreak of scarlet fever with three cases. The Board of Health reported there were two cases of smallpox earlier in the year, one in Buckeye and the other in Phoenix.

# *Future Medical Meetings*

The following institutions and organizations have been accredited for their continuing medical education programs by the Arizona Medical Association and/or the Accreditation Council for Continuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center of Northern Arizona
Good Samaritan Hospital, Phoenix
Health Maintenance Associates, Phoenix
Maricopa County General Hospital, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoenix
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program, (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

## OCTOBER

**Current Perspectives I
Exercise and Physical Fitness for the Weekend Warrior**
October 20. ArMA Offices, Phoenix, Sponsor: Arizona Medical Association & Valley National Bank Medical Banking Services. Contact: Nikki Mertz, ArMA, 810 W. Bethany Home Rd., Phoenix, AZ 85013. (members no charge—nonmembers $20. Approved for 3½ hours of Category 1 credit.

**4th Annual Seeing Our Way Clear**
October 23. Arizona Biltmore, Phoenix. Sponsor: St. Luke's Hospital and Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Hospital and Medical Center, Phoenix, Arizona 85006. Approved for 4.5 hours of Category 1 credit.

**New Concepts in Rheumatic Diseases**
October 23-24. Fiesta Inn. Tempe. Sponso Maricopa Medical Center. Contact: John W Heaton, Jr., M.D., Chairman, Dept. of Internal Medicine, Maricopa Medical Center, 2601 E. Roosevelt St., Phoenix, Arizona. Approved for 12 hours of Category 1 credit.

## NOVEMBER

**Second Annual Southwestern Poison Symposium**
November 5-6. Scottsdale Hilton Hotel. Sponsor: University of Arizona Health Sciences Center and Arizona Poison Control System. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724 Approved for 12 hours of Category 1 credi

**Flexible Sigmoidscopy**
November 5-6. Sheraton Scottsdale Inn, Scottsdale, Arizona. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, Phoenix, AZ 85006. Approved for 8 hours of Category 1 credit.

**Neoplastic Hematologic Disorders**
November 6-7. The Inn, McCormick Ranch Scottsdale. Sponsor: Arizona Society of Pathologists. Contact: Grant A Hertel, M.D Good Samaritan Medical Center, 1111 E. McDowell Road, Phoenix, Arizona 85006.

**Advanced Cardiac Life Support Recertification/Provider**
November 10-12. St. Joseph's Hospital and Medical Center, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., & ArMA. Contact: John Raife, M.D., Emergency Room, St. Joseph's Hospital and Medical Center, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 1 hours.

**XXX Annual Convention of the Medical Society of the United States and Mexico**
November 10-13. Guanajuato, Mexico. Sponsor: Medical Society of the United States and Mexico. Contact: Executive Secretary, 3161 North Pantano Road, Tucson, Arizona 85715.

**Models of Care and Rehabilitation in Traumatic Head Injury: A Southwest Symposium**
November 11-13. Scottsdale Sheraton Hotel. Sponsor: Good Samaritan Medical Center and Institute for Rehabilitation Medicine. Contact: Jean Smith, Institute of Rehabilitation Medicine, 1111 East McDowell Road, Phoenix, AZ 85062. Approved for hour per hour Category 1 credit.

**Diagnostic Advances**
November 13. U. of A. Health Sciences Center. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education. Approved for 8 hours of Category 1 credit.

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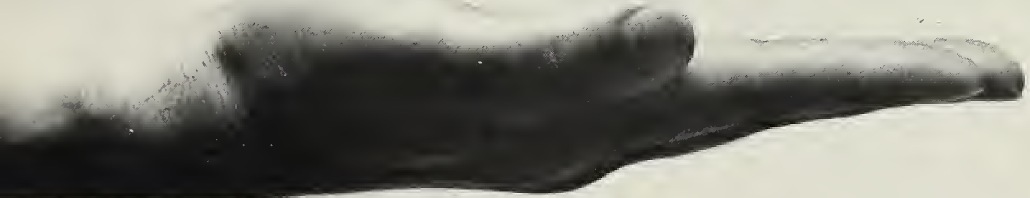

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# INSOMNIA

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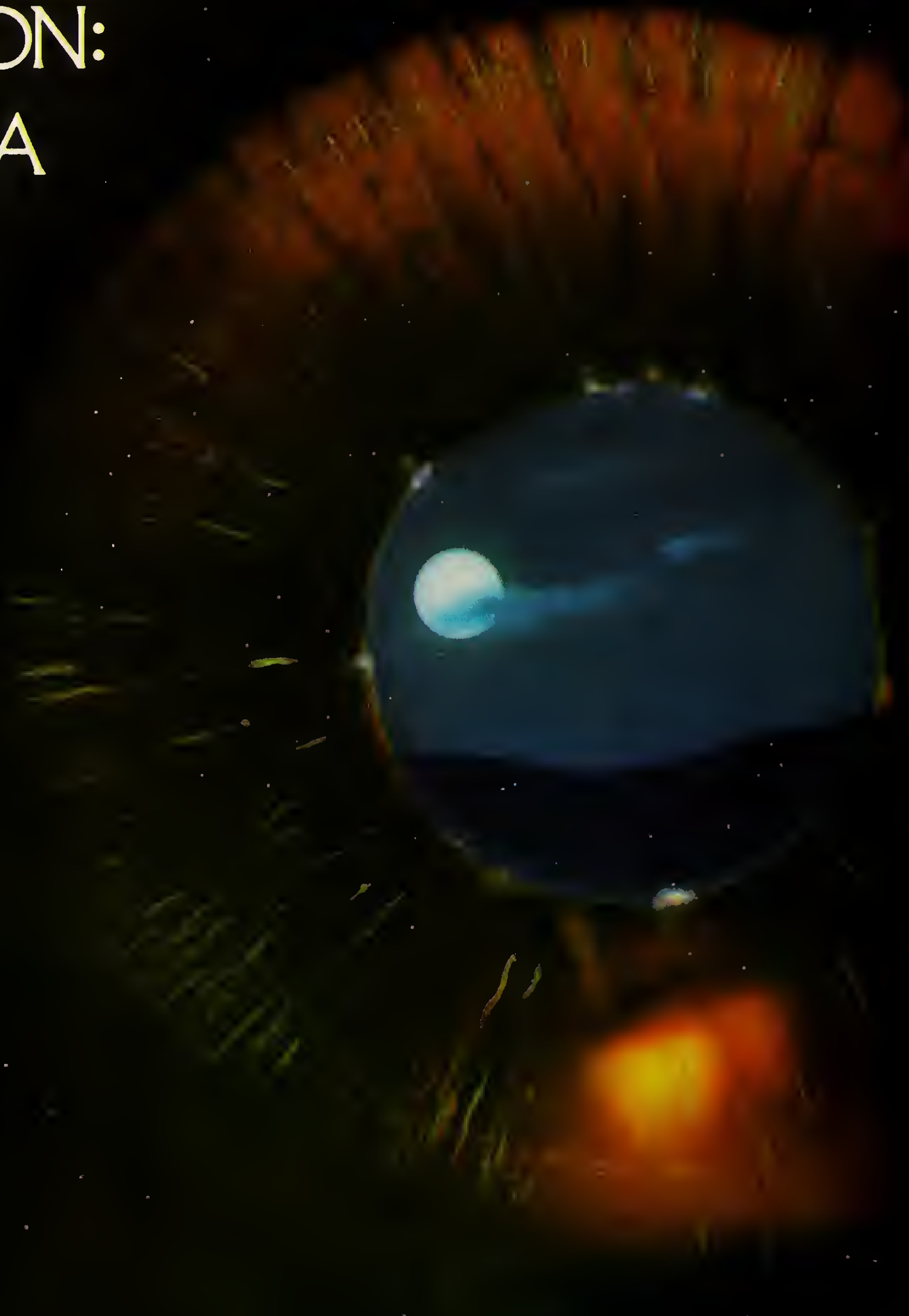
headache
vague aches and pains
sadness
psychic and somatic anxiety



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Limbitrol brings a special—and specific—quality of relief to most anxious depressed patients. Insomnia, for example, responds with particular promptness. Other symptoms likely to respond within the first week of treatment include anorexia, agitation and psychic and somatic anxiety. And, as the depression and anxiety are alleviated, in many cases so are such related somatic symptoms as headache, palpitations, and various vague aches and pains.

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Many patients respond readily to a single bedtime dose of Limbitrol, a convenient schedule that may enhance compliance and helps relieve the insomnia associated with anxious depression. Limbitrol also offers a choice of other regimens: t.i.d., or a divided dose with the larger portion h.s. In all cases, caution patients about the combined effects with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as driving or operating machinery.

in moderate depression and anxiety

# Limbitrol® Ⓒ IV

**Tablets 5-12.5** each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)
**Tablets 10-25** each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt)

Specific therapy with h.s. dosage convenience

**Please see summary of complete product information on following page.**

**LIMBITROL® TABLETS Tranquilizer—Antidepressant**
**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Relief of moderate to severe depression associated with moderate to severe anxiety

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved Contraindicated during acute recovery phase following myocardial infarction

**Warnings:** Use with great care in patients with history of urinary retention or angle-closure glaucoma Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses Myocardial infarction and stroke reported with use of this class of drugs ) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e g , operating machinery, driving)

> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide)

**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients Periodic liver function tests and blood counts are recommended during prolonged treatment Amitriptyline component may block action of guanethidine or similar antihypertensives Concomitant use with other psychotropic drugs has not been evaluated sedative effects may be additive Discontinue several days before surgery Limit concomitant administration of ECT to essential treatment See Warnings for precautions about pregnancy Limbitrol should not be taken during the nursing period Not recommended in children under 12 In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects

**Adverse Reactions:** Most frequently reported are those associated with either component alone drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs

*Cardiovascular* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke

*Psychiatric* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido

*Neurologic* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns

*Anticholinergic* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract

*Allergic* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus

*Hematologic* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia

*Gastrointestinal* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue

*Endocrine* Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels

*Other* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling

**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose Treatment is symptomatic and supportive I V administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning See complete product information for manifestation and treatment

**Dosage:** Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single *h s* dose may suffice for some patients Lower dosages are recommended for the elderly Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required Limbitrol 5-12 5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses

**How Supplied:** White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12 5 mg amitriptyline (as the hydrochloride salt) bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50

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**ean's Clinical Rounds**
ovember 16. Arizona Health Sciences enter, Tucson. Sponsor: U. of A. College Medicine. Contact: Office of Continuing edical Education, U. of A. Health ciences Center, Tucson, AZ 85724. pproved for hour per hour Category 1 edit.

**rologic-Radiologic Diagnosis II**
ovember 19-21. Scottsdale, Arizona. ponsor: Maricopa County General spital. Contact: Alex Newman, M.D., aricopa County General Hospital, 2601 est Roosevelt, Phoenix, Arizona 85008. pproved for 22 hours of Category 1 credit.

**urrent Perspectives II: Obesity, Diet, utrition and Disease**
ovember 20. ArMA Offices, Phoenix. ponsor: Arizona Medical Association. ontact: Nikki Mertz, ArMA Offices, 810 est Bethany Home Rd., Phoenix, Arizona 013. (members no charge—nonmembers 0.) Approved for 3½ hours of Category 1 edit.

**nnual Fall Pediatric Conference astroenterology, Nutrition and Urology"**
ovember 20-21. Arizona Inn, Tucson. ponsor: U. of A. College of Medicine. ontact: Office of Continuing Medical ducation, U. of A. Health Sciences Center, ucson, AZ 85724. Approved for hour per our Category 1 credit.

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### November 20, 1982

### FEMALE SEXUALITY, FOR WOMEN ONLY

### Pointe of View Resort, Phoenix

amily Planning Institute is ponsoring a one day workshop ntitled "Female Sexuality, for Women nly," to be held Saturday, November ), at the Pointe of View Resort. opics to be discussed in the orkshop are; understanding female exuality problems, sexual ommunication skills, factors hibiting sexual satisfaction, and ultural conditioning of sex roles. acilitator is Rosalyn Meadow, Ph.D., licensed and practicing sex educator nd sex therapist. Registration is open women of all ages. Continuing ducation Units are available to egistered Nurses. For further formation, contact Lorrie Reid-arson at 997-7493.

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## DECEMBER

**econd Annual Critically Ill hild Symposium**
ecember 2-3. St. Joseph's Hospital & ledical Center, Cullen Auditorium, hoenix. Sponsor: St. Joseph's Hospital nd Medical Center, Department of ediatric Education. Contact: Pediatric ducation, St. Joseph's Hospital & Medical enter, 350 W. Thomas Road, Phoenix, AZ 5013. Approved for 11.3 hours of Category credit.

# Flexible Sigmoidoscopy

## A course for the primary care physician

Friday and Saturday, November 5 & 6, 1982
at the Scottsdale Sheraton Resort, Scottsdale.

The two-day program will include presentations on the role of flexible sigmoidoscopy in cancer surveillance, the diagnosis of colon lesions, patient preparation, examination techniques, and equipment maintenance. The Saturday practicum session with patients will be held at St. Luke's Hospital.

The program has been approved for 8 hours of Category 1 CME credit.

**Sponsored by the Department of Gastroenterology at St. Luke's Medical Center, Phoenix.**

**For additional information, contact:**

Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center, 525 North 18th Street
Phoenix, Arizona 85006
(602) 251-8402

**Pulmonary Medicine**
December 4. Ramada Safari Resort, Scottsdale. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education. Approved for 8 hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
December 14-16. St. Joseph's Hospital, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., & ArMA. Contact: John Raief, M.D., Emergency Room, St. Joseph's Hospital, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Current perspectives III: Medical and Surgical Management of Coronary Artery Disease**
December 18. ArMA Offices, Phoenix. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20.) Approved for 3½ hours of Category 1 credit.

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### December 2-5, 1982

### DISEASES DUE TO IMMUNE MECHANISMS

### Doubletree Hotel, Tucson, Arizona

This 37th annual clinically-oriented, intensive review provides internists, family physicians, pediatricians, and physicians-in-training with an up-to-date summary of the underlying immunology and management of Diseases Due to Immune Mechanisms. In addition to didactic presentations by outstanding faculty, two afternoon workshops offer opportunities for informal discussion with the faculty. Special sessions are provided for office and clinic aides.

Address inquiries to: Leo H. Criep, M.D., Course Director, Division of Continuing Education, University of Pittsburgh School of Medicine, 1022A Scaife Hall, Pittsburgh, PA 15261. Telephone: (412) 624-2653.

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## 1983

## JANUARY

**Trauma Care '83—National Symposium on Trauma**
January 9-13. Scottsdale Hilton Hotel. Sponsor: John C. Lincoln Hospital and Health Center, Lincoln Institute of Surgery and Trauma, and Emergency Medicine Consultants. Contact: Robert J. Rankel, M.D., Chairman, Trauma Care '83, c/o John C. Lincoln Hospital and Health Center, 9211 North Second Street, Phoenix, Arizona 85020.

**Dean's Clinical Rounds**
January 12. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Current Perspectives IV: Newer Imaging Techniques**
January 19. ArMA Offices, Phoenix. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20). Approved for 3½ hours of Category 1 credit.

**Skeletal Fixation of Fractures**
January 21-22. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Endocrinology**
January 22. U. of A. Health Sciences Center. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

**Computer Applications in Critical Care Medicine**
January 27-28. Registry Resort, Scottsdale. Sponsor: Phoenix Baptist Hospital and Medical Center. Contact: Sharon Luczu, Allied Health Coordinator, Phoenix Baptist Hospital and Medical Center, 6025 N. 20th Ave., Phoenix, Arizona. Approved for hour per hour Category 1 credit.

## FEBRUARY

**Musculoskeletal Problems**
February 12. Ramada Safari Resort. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

**Fifth Annual International Cataract Surgery Symposium**
February 14-16. The Alamos Resort, Scottsdale, Arizona. Sponsor and Contact: The Eye Foundation, 525 N. 18th Street, Ste 504, Phoenix, Arizona 85006.

**Pediatric Update 1983**
February 14-17. La Posada Resort. Sponsor: St. Joseph's Hospital and Medical Center, and Phoenix Children's Hospital ( a Division of Good Samaritan Medical Center. Contact: Ronald A. Christensen, M.D., 1117 East Willetta, Phoenix, Arizona 85006. Aprpoved for 16 hours of Category 1 credit.

**Current Perspectives V: Dilemmas of a Teenager**
February 16. ArMA Offices. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20). Approved for 3½ hours of Category 1 credit.

**Neurological Symptoms**
February 17-19. Arizona Inn, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center. Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**9th Annual Frontiers in Ophthalmology**
February 17-19. Mountain Shadows Resort, Scottsdale. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, 525 North 19th Street, Phoenix, Arizona 85006. Approved for hour per hour Category 1 credit.

**Emergency Care Update -V**
February 28-March 2. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

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## ADOLESCENT/YOUNG ADULT MEDICINE

**February 23—March 1, 1983**
**Wailea Beach Hotel, Maui, Hawaii**

Sponsored by Hurley Medical Center, Department of Continuing Medical Education, One Hurley Plaza, Flint, Michigan 48504. 20 Hour
Telephone: (313) 766-0142.

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## MARCH

**Changes & Controversies in Pediatrics**
March 3-6. Marriott Hotel, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Cente Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Sixth Annual Mid-Winter Symposium in OB/GYN**
March 9-11. Scottsdale Hilton Hotel, Scottsdale. Sponsor: Maricopa County General Hospital and Phoenix OB/GYN Society. Contact: Secretary, Phoenix OB/GYN Society, 3412 N. Fourth Ave. Phoenix, Arizona 85013. Approved for 14 hours of Category 1 credit.

**4th Annual Sports Medicine Symposium**
March 10-12. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuin Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Current Perspective VI: Newer Aspects of VD**
March 16. ArMA Offices, Phoenix. Spons Arizona Medical Association. Contact: Nik Mertz, ArMA, 810 West Bethany Home Roa Phoenix, Arizona 85013. (members charge—nonmembers $20). Approved for 3 hours of Category 1 credit.

**Arizona Chest Symposium**
March 24-26. Doubletree Hotel, Tucson. Sponsor: U. of A. Health Sciences Center. Contact: Sandy Younker, R.N., Chest and Allergy Clinic, Tucson Medical Center, P. Box 42195, Tucson, AZ 85733. Approved for hour per hour Category 1 credit.

**Dermatology**
March 26. Arizona Health Sciences Cente Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Cente Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Dean's Clinical Rounds**
March 30. Arizona Health Sciences Cente Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

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1983

The 9th annual FRONTIERS IN OPHTHALMOLOGY seminar will explore the latest advancements in ophthalmic care.

Featured topics and speakers will include:

**CATARACT/IOL:** Steven P. Shearing, M.D., Chief of Ophthalmology, Valley Hospital, Las Vegas. **CORNEA/RADIAL KERATOTOMY:** J. James Rowsey, M.D., Director, Corneal Research, McGee Eye Institute, Oklahoma City. **GLAUCOMA/LASER TRABECULOPLASTY:** James B. Wise, M.D., Chairman, Department of Ophthalmology, Baptist Medical Center, Oklahoma City. **NEUROPHTHALMOLOGY:** Robert Hepler, M.D., Professor of Ophthalmology, Jules Stein Eye Institute, U.C.L.A. Center for the Health Services, Los Angeles. **OCULAR ONCOLOGY:** Devron H. Char, M.D., Director, Ocular Oncology Unit and Professor of Ophthalmology, University of California, San Francisco. **OCULOPLASTICS:** Orkan George Stasior, M.D., Clinical Professor of Ophthalmology and Director of Oculoplastic Service, Albany Medical College, Albany, N.Y.

**February 17-19, 1983** • Mountain Shadows Resort, Scottsdale, Arizona

Seminar Chairman: Edward L. Shaw, M.D., Chief of Ophthalmology,
St. Lukes Hospital, Phoenix

Approved for 15 hours, Category I C.M.E. credit

**Sponsored by the Prentice Eye Institute, and St. Luke's Medical Center, Phoenix.**

For additional information, call or write:
Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center
525 N. 18th St., Phoenix, Arizona 85006
(602) 251-8402

## MONTHLY OR WEEKLY

**hrine Medics Meeting**
econd Tuesday of each month, Doctors ospital, 5:45 p.m. J. South Classroom. ponsor: Shrine Medics. Contact: Robert . Briggs, M.D., 5121 N. Central Ave., hoenix, AZ 85012.

**ounter Transference Group**
eekly, Thurs. 8-10 p.m. Sponsor: Phoenix sychiatric Council. Contact: James E. ampbell, M.D., 5051 N. 34th St., Phoenix, Z 85018. Approved for 2 hours Category 1 redit.

**lonthly Meeting of Tucson Radiologists**
ast Tues. of month. Plaza International, ucson, AZ. Sponsor: U of A Medical enter, Dept. of Radiology. Contact: Irwin . Freundlich, M.D., U of A Health ciences Center, Dept. of Radiology, ucson, AZ 85724. Approved for 2 hours ategory 1 credit.

**ediatric Grand Rounds**
uesday 7:30-8:30 a.m in Phoenix: 1st ues.—Phoenix Indian Hospital, 2nd ues.— Maricopa County Hospital, 3rd ues.—Good Samaritan Hospital, 4th ues.—St. Joseph's Hospital. Sponsor: laricopa County Hospital (Phoenix lospital's Affiliated Pediatric Program). ontact: J. Kipp Charlton, M.D., 2601 E. loosevelt, Phoenix, AZ 85008. Approved or 1 hour per session Category 1 credit.

**Review of Forensic Pathology**
**Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,000, Phoenix, AZ 85064. Contact: Ravi Koopot, M.D.

**Clinical Conference**
**Cardiovascular Medicine**
Third Tues., 5:15 p.m., second floor classroom

## ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 85008. Contact: Arnold L. Kendall, M.D.

**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. Rm., Contact: Dr. Conger & Staff

**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Services Bldg., Conf. Rm.

**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. Conf. Rm.

## BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St Joseph's Hospital & Medical Center. Contact: John R. Green, M.D. Approved for 1 hour Category 1 credit.

**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.

**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.

**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurology conference room.

**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.

**Neuropathology of Gross**
**Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.

**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conference Rm.

**Neuropathology or**
**Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conference Rm.

**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference Rm.
**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, ED.D., Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, July, Sept. & Nov.
**Tumor Board**
Last Thursday of the month, 12 Noon, Educ. Center Classroom I & II, May, July, Sept, & Nov.
**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: T. F. Reid, Jr., M.D. Approved for Category 1 credit.
**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for Category 1 credit.
**CME Programs**
Weekly, Tuesday, 7 p.m., Cafeteria-West End.
**Clinical Conference — Dept. of Medicine**
Weekly, Thursday, 12:30-1:30 p.m. Buffet Lunch, Grande Rm.
**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.
**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2.

## DOCTORS HOSPITAL

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.
**Physicians Continuing Education Program**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Sept. and December) Contact: R. Grossman, M.D.
**Surgical Department Meeting**
3rd Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.
**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.
**Clinical Conferences**
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.
**Tumor Board Case Conference**
3rd Tuesday, 12:30 p.m., Hospital Conf. Rm.
**Mortality & Morbidity Conference**
1st Thursday, 12:30 p.m., Hospital Conf. Rm.

## GOOD SAMARITAN MEDICAL CENTER

1111 East McDowell Rd., Phoenix, AZ. Approved for Category 1 credit.
**Obstetrical Sectional Conference**
1st Monday, 12:30-1:30 p.m., Conf. Rm. E.
**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., Conf. Rm. E.
**Obsterical Sectional Conference**
5th Monday, 12:30-1:30 p.m., Conf. Rm. E.
**Pulmonary Grand Rounds**
Weekly, Monday, 12 noon- 1 p.m., Amphitheater.
**Family Practice**
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.
**Pediatric Grand Rounds**
3rd Tuesday, 7:30-8:30 a.m., Amphitheater.
**Family Practice**
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.
**Cardiology Grand Rounds**
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.
**Medical Noon Conference**
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.
**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
**Family Practice**
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.
**Tumor Conference**
2nd, & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
**Surgical Grand Rounds**
Weekly, Wednesday, 7:00-8:30 a.m., Amphitheater.
**Family Practice**
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.
**Medical Noon Conference**
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.
**Joint Tumor Gyn Conference**
2nd Friday, 12:00-1:00 p.m., Conf. Rms. E-F.
**Medicine Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.
**Neurology Grand Rounds**
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.
**Psychiatry Grand Rounds**
Weekly, Friday, 11:00-12:00 noon, Education Bldg. West.

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.
**Surgical Conference**
Weekly, Monday 8:00 a.m., Contact: R. Fischer, M.D.
**Medical Conference**
Weekly, 12:30 p.m., Contact: Chief Medic Resident.
**OB/GYN Pathology Conference**
Weekly, Thursday, 1:30 p.m., Contact: Ja Fleishman, M.D.
**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jos Santiago, M.D.

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 850

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

## MARICOPA MEDICAL CENTER

2601 E. Roosevelt, Phoenix, AZ 850
Contact: Leonard Tamsky, M.D.
**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.
**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Rm.
**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.
**OB/GYN Dept. Grand Rounds**
Weekly, Tuesday, 12 Noon, Santa Cruz Room.
**Obstetrical Problem Conference**
Weekly, Tuesday, 7:30 a.m., Yavapai Rm.
**Orthopedic Conference**
Weekly, Tuesday, 7:30 a.m., Santa Cruz Rm.
**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.
**Urology Discharge Planning Conference**
Weekly, Tuesday, 11:30 a.m., Station 42.
**Hand Surgery Conference**
Weekly, Wednesday, 7:30 a.m., Santa Cru Rm.
**Neurosurgery Discharge Planning**
Weekly, Wednesday, 1:30 p.m., Station 42
**OB/Neonatology Seminar**
Weekly, Wednesday, 7:30 a.m., Yavapai R
**Clinical Psychiatric Conference**
Weekly, Wednesday, 11-12 p.m., Mental Health Annex, Rm. 1346.
**Surgery Conference**
Weekly, Wednesday, 7-8 a.m., Surgical Dept.
**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.
**Cardiology Conference**
Weekly, Thursday, 2 p.m., Santa Cruz Rm
**OB/GYN Resident Conference**
Weekly,Thursday, 12 p.m., Yavapai Rm.

**YN Endocrine Seminar**
t & 3rd Friday, 12:30 p.m., Santa Cruz n.

**3/GYN Surgical Pathology Conf.**
eekly, Friday, 7:30 a.m., Yavapai Rm.

**rthopedic X-Ray Conference**
eekly, Friday, 7:30 a.m., Santa Cruz Rm.

## MESA LUTHERAN HOSPITAL

1 West 10th Place, Mesa, Arizona 85201. ontact: E. John Wickman, M.D.

**ontinuing Medical Education Programs**
iesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

25 N. 20th Ave., Phoenix, AZ 85015. ontact: J. Burr Ross, M.D., Approved for itegory 1 credit.

**linical Conferences**
t, 2nd & 3rd Tuesdays, 12 noon, 5th floor ditorium.

**PC or Medical-Surgical Forum**
n Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

12 North 16th St., Phoenix, AZ 85016. ontact: Leland L. Fairbanks, M.D., pproved for Category 1 credit.

**diatric Grand Rounds**
t Tuesday, 7:30-8:30 a.m., Contact: D. indall, M.D.

**linical Staff Teaching Conference, Rm. A.**
eekly, Wednesday, 7:30-8:30 a.m.

**tolaryngology Grand Rounds**
n Wednesday, 4-5 p.m., Conference Rm. Contact: N. Wendell Tood, M.D.

**imily Practice/Emergency Room eaching Conference**
iursday, Weekly, 7:30-8:30 a.m., Conf. n. A, Contact: Drs. L. Fairbanks & E.Y. oper.

## PHOENIX MEMORIAL HOSPITAL

01 S. 7th Ave., Phoenix, AZ 85036. ontact: George Scharf, M.D. Approved for itegory 1 credit.

**onthly Medical Education Seminar**
d Monday, 6:30 p.m., Kiva Conf. Rm.

**linical Conferences**
eekly, Tuesday, 12:30 p.m., Kiva onference Rm.

**sychiatric Clinical Conference**
d Friday, 11:30 a.m., B-Wing Conf. Rm., ontact: Medical Staff Secretary.

**imor Board Conference**
eekly, Friday, 12 p.m., Kiva Conf. Rm. ontact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

00 East 4th Street, Scottsdale, AZ 85251. ontact: W. S. Williams, M.D., Approved for itegory 1 credit.

**imily Practice Conference**
t Monday, 12:30 p.m., Doctors' Lounge.

**nergency Medical Services Conference**
d Monday, 12:30 p.m., Doctors' Lounge.

**eurology/Neurosurgery Conference**
d Monday, 12:30 p.m., Doctors' Lounge.

**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge.

**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge.

**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge.

**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge.

**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge.

**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge.

**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lounge.

**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lounge.

**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lounge.

**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge.

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.

**Genetics Conference**
Weekly, Monday, 12:30 p.m., Pediatric Department.

**Pediatric Rounds**
Weekly, Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.

**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.

**ECG Conference**
Weekly, Tuesday, 12:30 p.m., Pediatric Department.

**Medical Grand Rounds**
Weekly, Wednesday, 8 a.m., 1st Floor Conf. Room.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 8 a.m., PIMC.

**Visiting Professor Informal Presentation**
Weekly, Thursday, 9:30 a.m., 1st floor Conf. Rm.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 12:30 p.m., PIMC.

**Nephrology Conference**
Weekly, Fridays, 12:30 p.m., Pediatric Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact: Wm. Moteforte.

**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact: Kim Sowards.

**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.

**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contact: S. Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ, Contact: Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly, Monday, 12:15 p.m., Auditorium.

**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditorium.

**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium.

**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium.

**Cardiovascular-Thoracic Record Review**
3rd Wednesday, 12:15 p.m., Auditorium.

**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips Auditorium.

**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium.

**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium.

**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium.

**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium.

## ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703. Contact: see below.

**Monthly Specialty Conference — Dept. of Surgery**
1st Monday, 7:30 a.m., Century Rm. A., Contact: Med. Staff Office.

**Grand Rounds: Medical Surgical, Family Practice, Pathology, Radiology**
Weekly, Thursday.

**Emergency Medicine Lectures**
Weekly, Thursday, 8 a.m., Century Rm. A.

**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm. A.

**Cardiology Conference**
Weekly, Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Cardiology Conference**
1st, 3rd, & 5th Mondays, 12 Noon, Contact: M. Maximov, M.D.

**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. Miller, M.D.

**Endocrinology Conference**
4th Monday, 12 Noon, Contact: M. Parker, M.D.

**Nephrology Conference**
2nd Monday, 12 Noon, Contact: Stephen Seltzer

**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Lohman, M.D.

**Psychiatry Department Meeting**
3rd Monday, 12 Noon, Contact: Howard Winkler, M.D.

**Surgical Dept. Conference**
2nd Monday, 12 Noon, Contact: C. Peter Crowe, Jr., M.D.

**Hematology Conference**
4th Tuesday, 12 Noon, Contact: Gerald Giordano, M.D.

**Pulmonary/Infectious Disease Conference**
Weekly except 4th, Tuesday, 12 Noon, Contact: B. Friedman, M.D.

**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay Katz, M.D.

**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact: Dr. Lightner.

**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Foote, M.D.

**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.

**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, July, & Oct. Contact: C. Mangelsdorf, M.D.

**Medical Conference**
Weekly, Wednesday, 8:00 a.m., Contact: M. Fuchs, M.D.

**Neurology-Neurosurgery Conference**
Weekly, Wednesday, 12 Noon, Contact: H. W. Buschsbaum, M.D.

**Neuroradiology Conference**
Weekly, Thursday, 5:00 p.m., Contact: N. Komar, M.D.

**Tumor Conference**
Weekly, Thursday, 12 Noon, Contact: Cancer Committee.

**G—I Conference**
Weekly, Friday, 12 Noon, Contact: Charles Sanner, M.D.

**Interhospital Nuclear Medicine Conference**
Weekly, Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.

**OB/GYN Conference**
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.

**OB/GYN Pathology Conference**
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

**Medical/Surgical GI Conference**
1st & 3rd Monday, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.

**Orthopedic Surgery Conference**
2nd Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.

**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 3134, Contact: Dr. Mertz & Dr. Lanard.

**Vascular Conference**
2nd Monday, 3 p.m., Rm. 3134, Contact: Dr. Clintora

**GI Grand Rounds**
Weekly, Tuesday, 1 p.m., Contact: Drs. Sanowski, Kozarek, after GI Grand Rounds, Rm. T-5.

**GI Radiology Clinical Correlation Conference**
1st and 3rd Tuesday, 12:00 noon, Rm. T-5, Contact: Dr. Sanowski.

**GI Pathology Conference**
2nd and 4th Tuesday, 12:00 noon, Rm. T-5, Contact: Dr. Sanowski.

**Housestaff Pulmonary Disease Teaching Conf.**
Weekly, Wed., 12:30-1:30 p.m., Rm. 4115, Contact: Dr. Rohwedder, Ext. 388.

**Cancer Symposium**
1st and 3rd Thursdays, 3 p.m., Rm. 3134, Contact: Dr. Byrne

**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habibzedeh

**Medical Surgical Chest Conference**
1st & 3rd Thursday, 12:30 p.m., Rm. 4115 Contact: Dr. Rohwedder.

**Medical Service Grand Rounds**
1st, 2nd, 3rd. & 5th, Fridays, 11 a.m., Rm. T-5, Contact: Dr. Zeller

**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

## PRESCOTT VETERANS ADMINISTRATION HOSPTIAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.

**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

## TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.

**Medical Surgical Chest Conference**
Weekly, Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly, Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Conf.**
Weekly, Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly, Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.

**Radiology Conference**
1st Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Tuesday, 6:30 p.m.

**Pathology Conference**
4th Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for Category 1 credit.

**Anesthesiology Board Review Conferenc**
2nd & 4th Monday, 4-5 p.m., AHSC Dinin Rm. C&D, Contacts: Dr. Vaughn & Kryc.

**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly, Thursday, 4-5 p.m., Room 5403.

**Anesthesiology Case Discussion**
Weekly, Wed., 7:00 a.m., AHSC, Dining R C&D.

**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Roo C&D, Contacts: Drs. Otto & Zehngut.

**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center.

**Cardiac Catheterization Conference**
Weekly, Friday, 4:00 p.m., Contact: Dr. Temkin.

**Cardiology Research Conference**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Roeske.

**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn.

**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505., Contact: Jerry Goldstone, M.D., Dept. of Surgery.

**Dermatology Conference**
4th Monday, 5:15 p.m., AHSC, Contact: D R. Friedman.

**Dermatology Rounds**
Weekly, Wed., 11:30 a.m., Contact: Dr. Lynch.

**Endocrinology Seminar**
Weekly, Thursday, 12-1 p.m., Contact: Dr. Johnson.

**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contact: Dr. Sanders.

**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus.

**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter.

**Head & Neck Tumor Management Conference**
Weekly, Wed., 4:00 p.m., Contact: Dr. Manning.

**Hematology-Oncology Clinical Conferenc**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.

**Medical Grand Rounds**
Weekly, Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.

**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contacts: Drs Hughes & Alcorn.

**Neuromuscular Disease Conference**
Weekly, Friday, 11:30 a.m., Contact: Dr. Stern.

**Neuropathology Case Review**
Weekly, Friday, 8:30 a.m., UAHSC, Dr. P. Johnson.

**uroradiology Conference**
eekly, Thurs., 5:00 p.m., Contact: Dr. P.C. ristenson.

**uromuscular Journal Conference**
d & 4th Thursday, 7-9 p.m., Contact: Dr. ern.

**urosciences Seminar**
eekly, Tuesday & Friday, 7:30 a.m., ISC, Contact: Dr. C. Bamford.

**clear Medicine**
eekly, Thursday, 7:30 a.m., AHSC diology Conference Rm.

**/GYN Lectures**
eekly, Friday, 1 p.m., AHSC, Contact: Dr. ). Christian.

**hthalmology Grand Rounds**
 Friday, 7:30 a.m., AHSC, Contact: Dr. Herschler.

**hthalmology Retina Fluoro. Conference**
eekly, Thursday, 5 p.m., AHSC, Contact: H. Cross.

**thopedic Rounds**
turday, 8:00 a.m., Contact: Dr. Peltier.

**in Conference**
 Monday, 4-5 p.m., AHSC Dining Rm. D, Contact: Drs. Hameroff & Cork.

**thology Conference**
eekly, Monday, 12 noon, AHSC, Contact: C.D. Christian.

**thology Seminar**
eekly, Friday, 4:30-5:30 p.m., AHSC, Rm. 20. Contact: Dr. P. Finley.

**cson Pathologist Conference**
 Monday, 7:30 p.m., AHSC, Contact: Dr. R. Graham.

**Pediatric Grand Rounds**
2nd, 4th & 5th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.

**Pediatric Problem Patient Conference**
Weekly, Wed., 8:00 a.m., Contact Dr. Lillian Valdes-Cruz.

**Pediatric Research Forum**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Otakar Koldovsky

**Pediatric Specialty Conference**
Weekly, Friday, 8:00 a.m., Contact: Dr. Marilyn Heines & Jane Ruggill.

**Psychiatric Grand Rounds**
Weekly, Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium.

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital.

**Pulmonary Rounds**
Weekly, Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.

**Chest Radiology**
Weekly, Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly, Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly, Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly, Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich.

**Radiology-Rheumatology Conference**
Weekly, Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.

**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact: Dr. Nagle.

**Residents Noon Conference**
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**Resident's Conference**
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**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.

**Surgical Morbidity & Mortality Conference**
Weekly, Wed., 8:00 a.m., Contact: Dr. Wangensteen.

**Trauma Conference**
Thursday, 4:00-5:00 p.m.. AHSC, Rm. 5505.

**Toxicology Conference**
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**Tucson Ultrasonography Group**
Weekly, Wed., 4:30 p.m., AHSC, Contact: Dr. I. Freundlich.

**General Urology Conference**
Weekly, Tue. & Thurs., 12:00 noon, AHSC & VA Hospital Contact: Dr. G.W. Drach.

**Vascular Surgery Conference**
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In the treatment of insomnia

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Feeling well rested in the morning usually means having slept well the night before. And for insomniac patients receiving hypnotic therapy, a good morning also means awakening with few side effects from their medication. Many physicians choose Dalmane for their patients who suffer from insomnia for this very reason.

Aside from enabling patients to fall asleep more quickly and sleep longer, Dalmane seldom causes morning hangover. Most Dalmane patients feel alert and refreshed when they awaken. In 53 paired-night clinical studies comparing Dalmane and placebo in 2010 insomniac patients with a variety of secondary diagnoses, most Dalmane patients awakened more alert and refreshed, and less groggy and drowsy, than on nights when they had taken only placebo.[1] In a double-blind crossover study of 42 patients in private practice, approximately three time as many patients reported feeling refreshed and alert upc awakening after a night on Dalmane (flurazepam/Roch compared to placebo nights.[2] This difference was highly significant ($p<0.001$). And a retrospective study of 25 hospitalized patients who received Dalmane revealed on a 3.1% incidence of side effects.[3]

While residual effects from Dalmane therapy are infrequent, patients should be cautioned about drinking alcohol, driving or operating hazardous machinery after ingesting the drug.

## Efficacy and safety in a broad range of patient types.

Over 2000 clinical trials involving more than 10,000 patients have shown that Dalmane patients fall asleep sooner, sleep longer and experience fewer noctur awakenings.[4] The safety and efficacy of Dalmane have been demonstrated in medical and surgical hospitalized patients, in patients seen in office practice and in elderly patients.[5-8] Since the risk of oversedation, dizziness, conf

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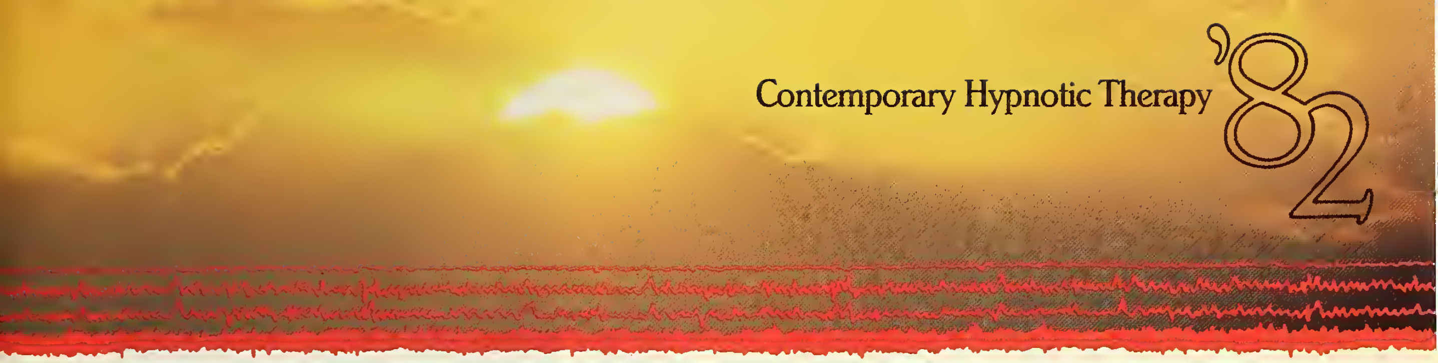

ion and/or ataxia increases with larger doses in the elder-
y, it is recommended that the dosage be limited to 15 mg.
Moreover, the efficacy and safety of Dalmane for the
eatment of insomnia have been demonstrated in thou-
ands of patients with a variety of primary medical condi-
ons, including cardiovascular, neuropsychiatric, endocrine-
netabolic, gastrointestinal, genitourinary, respiratory and
nusculoskeletal disorders.[1] Dalmane (flurazepam HCl/Roche)
s contraindicated in pregnancy and in patients hypersensi-
ve to the drug.

## Avoids rebound insomnia upon discontinuation.

Rebound insomnia—a worsening of sleep beyond
retherapy levels after drug discontinuation—has been
eported as a potential clinical problem with some hypnot-
cs.[9,10] However, this problem has not been reported with
Dalmane. In eight out of eight sleep laboratory studies,
here were no reports of rebound insomnia.[11] When you
rescribe Dalmane, you can be confident of efficacy that
nhances therapeutic progress. Your insomniac patients can
e assured of a restful night, night after night—a good start
or a good morning.

**References:** **1.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **3.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **4.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **5.** Meyer JA, Kurland KZ: *Milit Med 138*:471-474, Aug 1973. **6.** Feffer HL, Gibbons B: *Med Times 101*(8):130-135, Aug 1973. **7.** Jacobson A *et al*: *Psychophysiology 7*:345, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 1978. **10.** Kales A *et al*: *JAMA 241*:1692-1695, Apr 1979. **11.** Monti JM: *Methods Find Exp Clin Pharmacol 3*(5):303-326, 1981.

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**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

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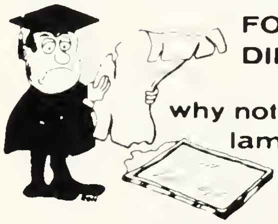

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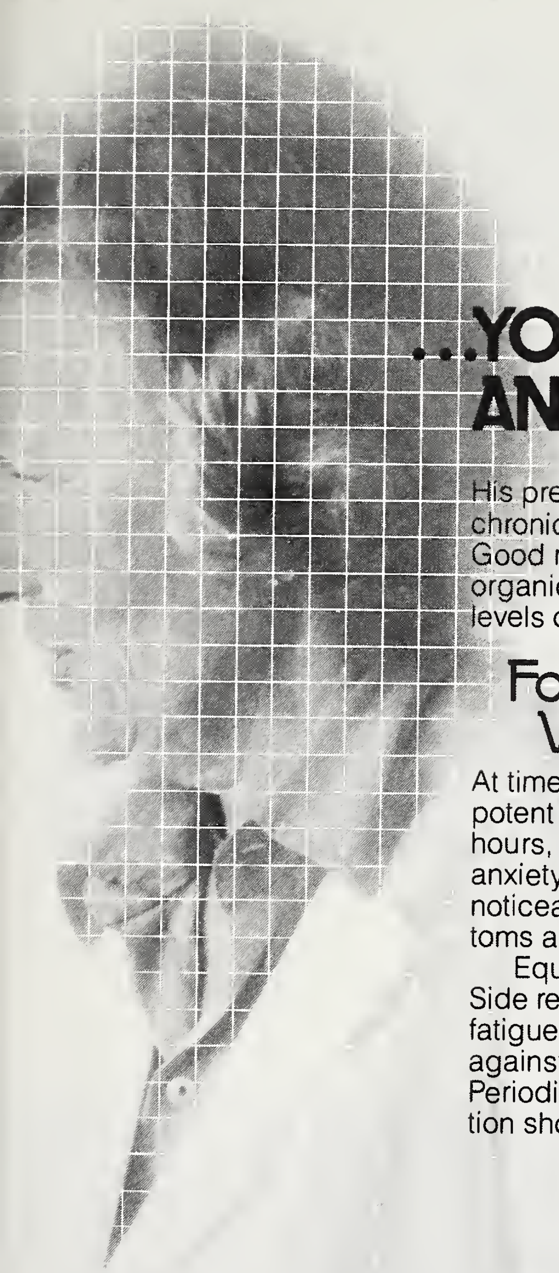
NOVEMBER 1982 VOL. XXXIX, NO. 11

THE PATIENT THINKS
HE HAS HEART TROUBLE...



# ...YOU KNOW IT'S REALLY ANXIETY SYMPTOMS

His presenting symptoms: palpitations, chest pain, chronic exhaustion and occasional difficulties in breathing. Good reason for concern. A complete workup uncovers no organic dysfunction, but it *does* reveal excessively high levels of anxiety and apprehension.

## For rapid relief you prescribe Valium (diazepam/Roche)

At times like this, Valium (diazepam/Roche) can be a potent therapeutic ally. It works promptly. Within just a few hours, the patient begins to feel calmer. And in a few days, anxiety relief not only becomes more pronounced but a noticeable reduction in anxiety-generated somatic symptoms also occurs.

Equally important, Valium is generally well tolerated. Side reactions more serious than drowsiness, ataxia and fatigue are rare. Patients should, of course, be cautioned against driving or drinking alcohol while on Valium therapy. Periodic reassessment of the need for antianxiety medication should also be performed.

**VALIUM® Ⓒ**

**diazepam/Roche**

2-mg, 5-mg, 10-mg scored tablets

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Please see summary of product information on the following page.

VALIUM® (diazepam/Roche)

**Before prescribing, please consult complete product information, a summary of which follows:**
**Indications:** Management of anxiety disorders, or short-term relief of symptoms of anxiety Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic Symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome; convulsive disorders (not for sole therapy)
The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies The physician should periodically reassess the usefulness of the drug for the individual patient
**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.
**Warnings:** Not of value in psychotic patients Caution against hazardous occupations requiring complete mental alertness When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures Advise against simultaneous ingestion of alcohol and other CNS depressants Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses Infrequently milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months After extended therapy, gradually taper dosage Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence

*Usage in Pregnancy:* **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation
The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration The clinical significance of this is unclear
**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia constipation, headache, incontinence, changes in salivation slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy
**Dosage:** Individualize for maximum beneficial effect *Adults* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d to q.i.d, alcoholism, 10 mg t.i.d or q.i.d in first 24 hours, then 5 mg t.i.d or q.i.d as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d or q.i.d, adjunctively in convulsive disorders, 2 to 10 mg b.i.d to q.i.d *Geriatric or debilitated patients* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months)
**How Supplied:** For oral administration, Valium scored tablets—2 mg, white; 5 mg, yellow, 10 mg, blue—bottles of 100* and 500,* Prescription Paks of 50, available in trays of 10.* Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25,† and in boxes containing 10 strips of 10†

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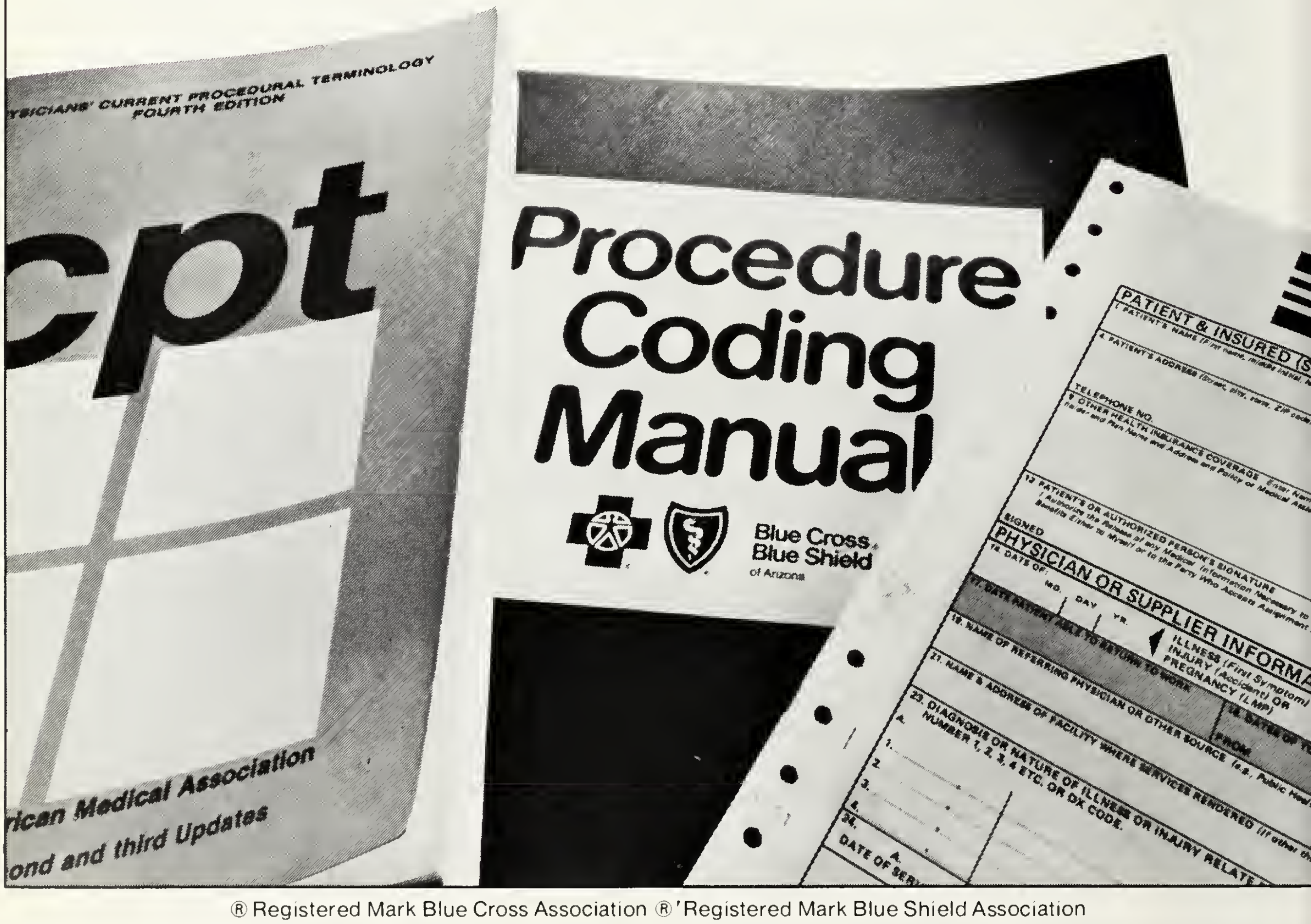

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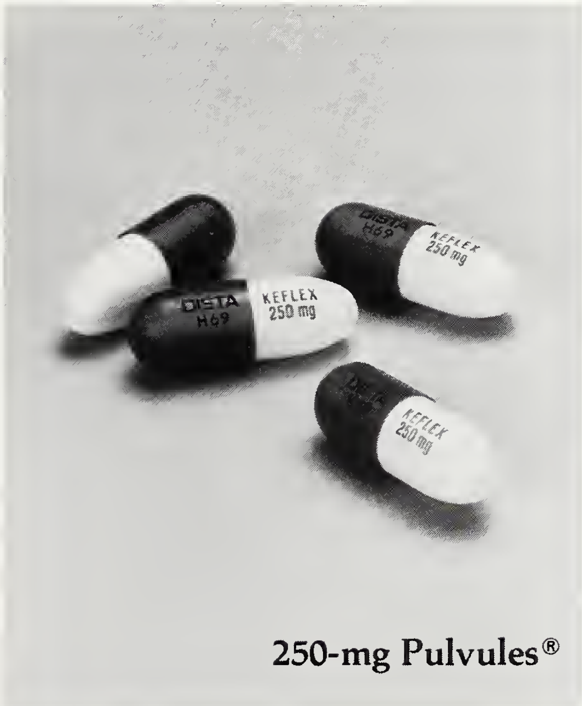

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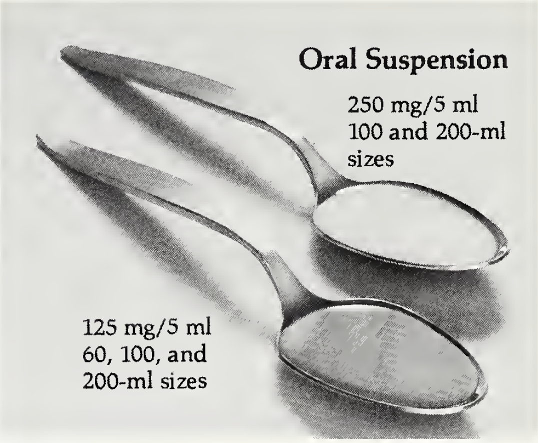

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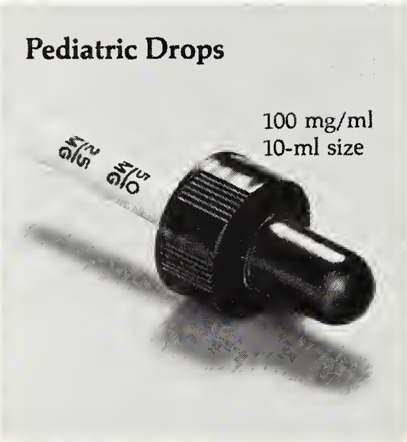

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When mild to moderate pain is a side effect of "Fitness"

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(ibuprofen)

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See next page for brief summary of prescribing information.

# Measure RUFEN® (ibuprofen) against "standard" mild to moderate pain

Dental pain and episiotomy pain are predictable, reproducible "standards" that make possible objective comparisons of effectiveness of different analgesic agents.

- Measured against 15, 30 and 60 mg doses of codeine phosphate in a double-blind study of 287 patients, 400-mg doses of ibuprofen proved "significantly better than codeine on almost all pain intensity, degree of relief and duration of analgesia parameters."[2]
- Measured against a propoxyphene-acetaminophen combination for pain relief after 3rd molar extractions, ibuprofen proved equally effective and caused fewer side effects. Ibuprofen was associated with faster recovery, evidenced by more rapid reduction of trismus and return to normal function.[3]
- Measured against post-episiotomy pain in 30 patients, "ibuprofen was effective in treating the swelling as well as pain…during the first and worst days. Therefore, it is not only the analgesic but also the anti-inflammatory effect of ibuprofen that are the beneficial factors…"[4]

# Measure RUFEN® (ibuprofen) against any mild to moderate pain

| RUFEN | Acetaminophen + codeine combination |
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| • single-entity, peripheral-acting analgesia | • combined drugs act partly through central opioid pathways |
| • powerful treatment of both pain and inflammation | • virtually no treatment of the inflammatory component |
| • better tolerated than aspirin | • combined side effects of two drugs—warning required about driving or operating machinery; possible respira tory depression with alcohol, tranquil izers, other common medications |
| • no narcotic risk, red tape, records | • narcotic precautions required |
| • matchless economy in a modern NSAID | |

**References:**
1. Hart FD, Huskisson EC, Ansell BM in Hart FD (editor): Drug Treatment of the Rheumatic Diseases, 2nd Ed, Adis Press, Balgowlah Australia, 1982, p. 30.
2. Rondeau PL, Yeung E, Nelson P: Canad Dent Assoc J 46:433-439, 19
3. Selwyn P and Giles AD: Br Jrl of Clin Practice, Supplement 6, Safe and effective analgesia following dental surgery: A comparison of brufen and distalgesic. Pg 87-90. 1980.
4. Taina E: Curr Med Res Opinion, 7:423-428, 1981.

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RUFEN®
Each tablet contains IBUPROFEN 400 mg
100 TABLETS
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# And Rufen® Measures Up Best

## RUFEN® (ibuprofen) Tablets

**INDICATIONS AND USAGE:** Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have not been established for Functional Class IV rheumatoid arthritis.

**Relief of mild to moderate pain. Treatment of primary dysmenorrhea.**

**CONTRAINDICATIONS:** Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angio-edema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

**WARNINGS:** Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally, however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding

**PRECAUTIONS:** Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

**DRUG INTERACTION:** *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

*Aspirin.* Concomitant use may decrease Rufen blood levels.

**PREGNANCY AND NURSING MOTHERS:** Rufen should not be taken during pregnancy nor by nursing mothers.

**ADVERSE REACTIONS:** **Incidence greater than 1%. Gastrointestinal:** The most frequent adverse reaction is gastrointestinal (4 to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). Central Nervous System: dizziness*, headache, nervousness. Dermatologic: rash* (including maculopapular type), pruritus Special Senses: tinnitus. Metabolic: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).
*Incidence 3% to 9%.

**Incidence less than 1 in 100. Gastrointestinal:** gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena Central Nervous System: depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma. Dermatologic: vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome and alopecia *Special Senses.* hearing loss, amblyopia (blurred and/or diminished vision, scotomata and/or changes in color vision) [see PRECAUTIONS]. Hematologic: neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura eosinophilia, decreases in hemoglobin and hematocrit. Cardiovascular: congestive heart failure in patients with marginal cardiac function, elevated blood pressure. Allergic: syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasms (see CONTRAINDICATIONS). Renal: acute renal failure in patients with preexisting significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria. Miscellaneous: dry eyes and mouth, gingival ulcers, rhinitis.

**Causal relationship unknown. Gastrointestinal:** pancreatitis Central Nervous System: paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri. Dermatologic: toxic epidermal necrolysis, photoallergic skin reactions. Special Senses: conjunctivitis, diplopia, optic neuritis. Hematologic: bleeding episodes. Allergic: serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis. Endocrine: gynecomastia, hypoglycemia Cardiovascular: arrhythmias (sinus tachycardia, bradycardia, and palpitations). Renal: renal papillary necrosis.

**OVERDOSAGE:** Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

**DOSAGE AND ADMINISTRATION:** Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d

**Dysmenorrhea:** 400 mg every 4 hours as necessary

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for the relief of pain. *Do not exceed 2,400 mg per day.*

**CAUTION:** Federal law prohibits dispensing without prescription.

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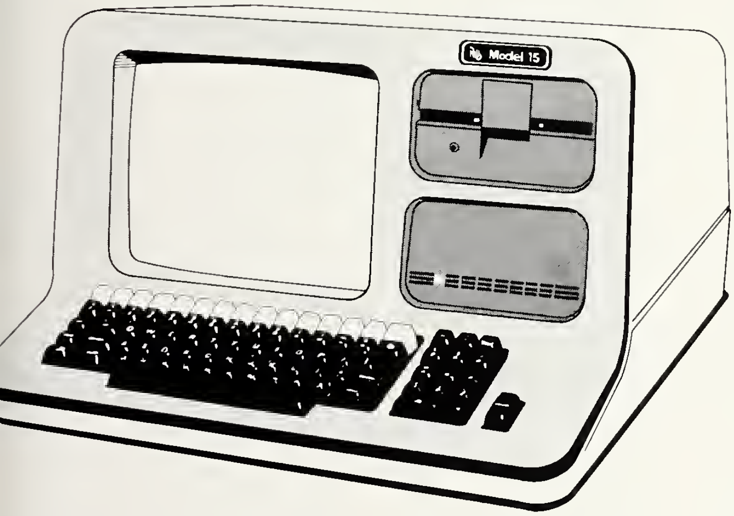

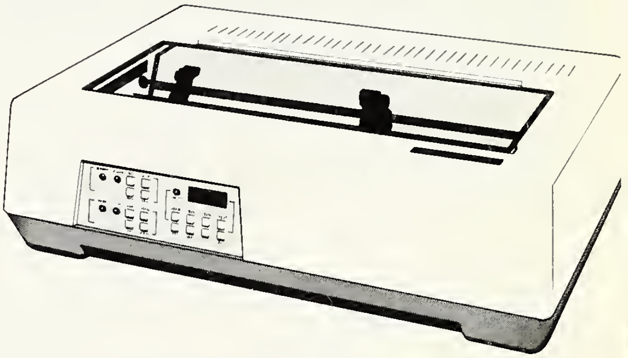

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Cardiology

# Streptokinase in Acute Myocardial Infarction (Selective Intracoronary Thrombolysis)

Dietmar Gann, M.D., F.A.C.C.

Editor:
Kenneth B. Desser, M.D.

An occlusive thrombus is found in as many as 82% to 97% of patients dying of acute myocardial infarction or in patients with acute myocardial infarction that are studied angiographically within the first few hours of onset of pain.[1-4]

Successful in vivo lysis of thrombi and emboli with Streptokinase has been demonstrated for more than 20 years already. Streptokinase has been used extensively in patients with pulmonary emboli, deep vein thrombosis and clotted arteriovenous shunts.[5,6]

Streptokinase is harvested from cell cultures of Streptococcal bacteria. It can produce allergic reaction and rarely anaphylaxis. Recent, more purified Streptokinase is less allergenic. Streptokinase acts indirectly via formation of a Streptokinase-Plasminogen activated complex which secondarily converts Plasminogen to Plasmin. Plasmin digests fibrin. Fibrin is the main compound of a fresh thrombus. Fibrin digestion results in lysis of the thrombus.

Perfusion of the coronary arteries with Streptokinase in man, following myocardial infarction, was first attempted in 1960.[7] A catheter was placed in the sinus of Valsalva close to the coronary ostium of the suspected occluded artery and infusion of Streptokinase was timed to diastole. Evaluating the effect of perfusion was difficult because selective coronary angiography was not avaliable yet. One of the reported patien however, showed a reversal of an acute injury pattern almost a normal electrocardiogram three hours aft perfusion was started, suggesting the possibility th flow was actually reestablished.

This approach was not further pursed. Instead, larg doses of intravenous Streptokinase were used in patien with acute myocardial infarctions. A multitude of studi were performed, basically all the major ones in Europ A review article in 1979 concludes that the value of th intravenous thrombolytic therapy in acute myocardi infarction is not yet established.[8]

When selective coronary arteriography becam available, the idea of intracoronary injection Streptokinase in acute myocardial infarctic interestingly was not taken up immediately. Primarily, believe for two reasons. A: The importance an incidence of coronary thrombosis in the pathogenesis acute myocardial infarction was still the subject controversy with some published evidence, at least i the early '70s, leading away from the theory that thrombus causes infarction. B: Cardiac catheterizatio in a patient with an acute myocardial infarction was fe to be too risky.

Early studies with coronary artery bypass surge indicated that within the first half year, up to 30% of th bypass grafts were occluded and in many, it was clearly thrombotic occlusion and not an arterioscleroti process, and frequently the occlusion resulted i myocardial infarction. It was in this specific type myocardial infarction where selective infusion Streptokinase into an occluded graft was first use successfully in 1974. The study was performed by Drs. C Willcox and L. Schocket in St. Mary's Hospital in Tucsor A 56-year-old patient was eight days post triple coronar bypass graft surgery when he developed an acut anterior wall myocardial infarction initially complicate by ventricular fibrillation and then by cardiogeni shock. Cardiac catherization was performed within tw hours of onset of symptoms, an occluded graft to the le anterior descending coronary artery was found. A tot of 300,000 units of Thrombolysin* were infused over a hour and a half into the occluded vein graft and clot lys occurred with reestablishment of blood flow. Bloo pressure returned to normal and the patient recovere fully. Unfortunately, the patient died about a mont later from a massive stroke. A second patient tha presented with a similar clinical picture was treate successfully by Dr. E. Byrne-Quinn at Tucson Medic Center in 1976.[9]

This potential therapeutic approach was not furthe investigated until Rentrop in Germany in 1979 started t catheterize patients with acute myocardial infarctio and selectively infused the occluded coronary arter with Streptokinase.[10] Of 29 patients reported in 198 reopening of an occluded artery occurred in 22 patient

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From: 5402 East Grant, Tucson, Arizona 85712.

*A combination of Streptokinase and Plasminogen.*

## Table

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|  | M | M | M | M | M | M | M | M | M | M | M | M | M | M | F | F | M | M | F |
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| luded ery | L | R | R | C | L,R | L | R | L | R | C | L | C | C | L | R | R | R | R | L |
| ening time urs-Min. | 1.5 | 2.05 | 1.45 | 3.00 | 3.30 | 3.55 | 2.10 | 1.45 | 2.45 | 2.40 | 1.55 | 4.30 | —— | 2.35 | 2.00 | 3.40 | 2.45 | 2.30 | 2.30 |
| aining truct. | 85% | 40% | 90% | 60% | 50% | 95% | 50% | 45% | 70% | 80% | 90% | 95% | 100% | 90% | 30% | 95% | 90% | 80% | 95% |
| nplica. | —— | VT | VT | —— | CS<br>AB | VT | VT | B | —— | VT | —— | CHB<br>AB | Shock | B | —— | —— | CS<br>CHB,<br>AB | —— | B |
| e Strepto 0s) | 320 | 360 | 240 | 200 | 260 | 300 | 260 | 190 | 240 | 200 | 180 | 320 | 310 | 350 | 210 | 260 | 280 | 220 | 200 |
| come rac. | 49% | 58% | 59% | 65% | NA | NA | 49% | 32% | 54% | 45% | 35% | 42% | 33% | NA | NA | 54% | 53% | 56% | NA |
| red |  |  |  |  | 2 days |  |  |  |  |  |  |  | 8wks. H.F. |  | 4 mo. CA 1ng |  |  |  |  |
| ery |  |  | Triple Bypass |  |  |  |  |  |  |  | Quint. Bypass |  |  |  |  | Triple Bypass |  |  | Triple Bypass |
|  | No Qwave | Inf. Wall | No Qwave | No Qwave |  | Ant. Wall | Inf. Wall | Ant. Wall | Inf. Wall | Ant. Wall | Ant. Wall | Inf. Wall | Inf. Wall | Norm EKG | No Qwave | No Qwave |  | Inf. Wall |  |
| ss 90% | N | N | N | P | —— | NA | N | P | N | N | N | NA | NA | N | NA | N | N | P | NA |
| ow-up e, weeks | 5 | 6 | 17 | 5 | —— | 28 | 30 | 46 | 38 | 22 | 9 | 4 | 8 | 9 | 16 | 38 |  |  |  |

e of Infarction: A - anterior, I-inferior.
luded artery: L - left, R - right, C - Circumflex.
ning time: Time for onset of chest pain to reestablishing flow through the occluded artery.
aining obstruction: Estimated remaining obstruction of diameter of artery.
plications: VT - ventricular tachycardia, CS - cardiogenic shock, B - bleeding problem, CHB - complete heart block, AB - aortic balloon.
s test: N - normal, P - positive, NA - not available

ithin 15 to 90 minutes after the onset of Streptokinase fusion. Repeat angiography of 21 patients, an average f 25 days after the acute intervention, revealed only one atient with a reocclusion. Similar results have been ublished by Ganz from Cedar-Sinai in Los Angeles and old from the Harvard University.[11]

Over the last ten months, I treated 19 patients with cute myocardial infarctions in a similar fashion. All atients were seen and evaluated within the first three ours of the onset of the infarct process and then nmediately taken to the Cardiac Catheterization boratory.

The main selection criteria was onset of typical chest ain within three hours of admission, typical acute hanges of transmural myocardial infarction on the lectrocardiogram that did not significantly change after ne administration of sublingual Nitroglycerin. An nformed consent was obtained from all patients and om available relatives. The findings and results are sted in the Table.

None of the patients had any permanent harmful ffect from the procedure. One patient died in rdiogenic shock 24 hours after the Streptokinase fusion and after successful reopening of a totally ccluded left anterior descending coronary artery. He so had, in addition to the totally occluded left anterior escending artery, a totally occluded circumflex artery and right coronary artery. He had required aortic balloon insertion at the time of the Streptokinase infusion.

A second patient died eight weeks later from chronic renal failure and a third patient expired four months later from carcinoma of the lung.

Virtually all patients developed some rhythm problems, usually at the time of reopening the artery (so-called reperfusion arrhythmia) either temporary slowing of the heart rate or ventricular arrhythmia. Most of the time no treatment was necessary. Five patients exhibited prolonged ventricular tachycardia requiring Lidocaine infusion. Two patients developed symptomatic complete heart block requiring temporary pacing. In three patients an aortic balloon was inserted for treatment of cardiogenic shock. The shock state had preceeded the Streptokinase infusion in all three patients. Two patients bled and required blood transfusions. One patient bled from the catheterization site, another developed retroperitoneal bleeding. Both patients required two units of blood.

At least partial opening of the occluded artery and reestablishment of blood flow occurred in 18 of the 19 patients. One patient with an occluded circumflex artery showed no response to Streptokinase infusion. Remaining obstructive lesions greater than 75% at the area of the previous total occlusion persisted in all but three patients. In one patient who was catheterized six weeks later a 90% remaining lesion had regressed to about a 20% lesion. This patient was unusual because reperfusion started only after the clot was manipulated with the infusion catheter.

The time sequence from onset of chest pain to opening of the artery varied from one hour and forty-five minutes to four hours and thirty minutes with a mean of two hours and thirty-eight minutes. The total Streptokinase dose infused varied from 180,000 units to 360,000 units with a mean of 247,000 units.

In 14 patients an ejection fraction was measured with a first pass technetium pyrophosphate scan usually within two weeks after the Streptokinase infusion. The values varied from 32% to 65% (mean 48%).

The patient with the lowest ejection fraction of 32% developed a reinfarction eight hours after the initial opening of a left anterior descending coronary artery and it was felt that the reinfarction was secondary to reocclusion of the artery. In seven of the fourteen patients the ejection fraction remained above 50%, close to normal range.

Four patients underwent coronary artery bypass surgery from six hours to two weeks after the Streptokinase infusions. All survived surgery. Indications for surgery were severe triple vessel disease in all patients.

Follow-up electrocardiograms in six patients demonstrated no development of Q-waves and only minor nonspecific ST-T changes. All the other 13 patients continued to show an infarction pattern with significant Q-waves.

Changes of the electrocardiogram occur very acutely as soon as the artery starts to open. The ST segments that are initially substantially elevated return quickly towards normal. Also with the reopening of the artery the patient's chest pain usually subsides immediately.

Follow-up time ranged from four weeks to 46 weeks. Thirteen patients underwent a 90% maximal stress test usually one to two weeks after hospital discharge. Ten stress tests were entirely normal. In three patients the tests were mildly positive. All three patients had single vessel disease and are functional Class II on medications.

An example of a most successful lysis of a clot is demonstrated in Figure 1 and 2. This 60-year-old woman had sudden onset of chest pain at home, arrested secondary to ventricular fibrillation and was resuscitated by the paramedics. Her private physician* diagnosed an acute inferior wall myocardial infarction and referred her for Streptokinase infusion. The patient was catheterized an hour and forty minutes after the onset of the symptoms and angiography revealed a total proximal occlusion of the right coronary artery. Fifteen minutes after Streptokinase infusion was started with a total of 48,000 units of Streptokinase the artery reopened. The ST segments immediately returned toward normal and the patient's chest pain disappeare After a total infusion of 270,000 units of Streptokinas only approximately a 30% lesion remained. Th electrocardiogram at the end of the procedure wa normal.

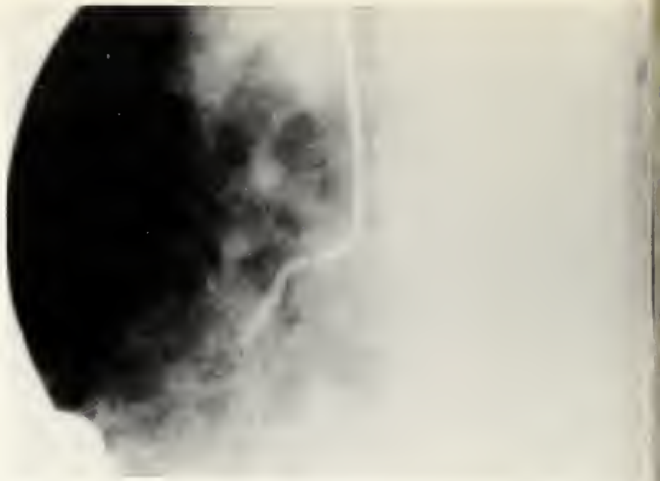

Figure 1
**Total occlusion of the proximal right coronary artery. Only small stump is seen.**

**Comments**

General agreement exists about the following points

1. An occlusive thrombus is found in the majority patients with an acute transmural myocardial infarctio
2. Cardiac catheterization can be done fairly safely i the setting of an acute myocardial infarction.
3. Reopening of an occluded artery and subseque reperfusion of infarcted tissue can be accomplished i the majority of patients without any significa deleterious effect.

We still need more knowledge about the benefits short term and long term—derived from intracorona thrombolysis. Results from available studies at this poin would indicate that early reperfusion may reduce th size of the infarct. Perfusion defects seen with thalliu imaging before lysis of the thrombus substantiall decrease after reopening of the artery. Ejection fractio in patients with successful opening of an occluded arte improve progressively over an eight to ten day period. I patients that show no opening of the occluded arter the ejection fraction remains the same in the acut infarct period and eight to ten days later.[10]

We do not know how frequently reocclusion of th opened artery will occur. From studies available at th point, the risk is probably small. There is actually som indication that there may be some regression of th obstructive lesion over a period of several weeks demonstrated by studies acutely and four weeks late specifically as shown in the study by Rentrop. Howeve a substantial number of patients are probably going t need coronary artery bypass surgery. Some of th patients may benefit from coronary angioplast Presently, the optimal timing for these procedures is n known.

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*We kindly thank Dr. S. Racz for his referral.

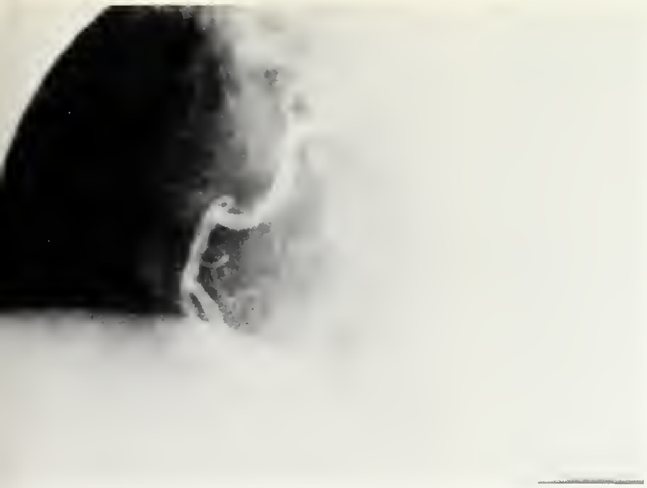

Figure 2
**mplete opening of the previously occluded artery. No nificant residual stenosis is seen.**

The appeal of the procedure and its widespread ceptance is based primarily on the potential that for e first time in the treatment of myocardial infarctions, e may be able to truly reduce the infarct size. This, owever, will probably entirely depend on the timing of e procedure. Animal studies would indicate that major lvage of myocardium can be accomplished only within e first three to four hours of the infarct process and the rlier reperfusion occurs the more myocardium will be lvaged.

In the most optimal circumstance it will be at least an ur and a half before the intracoronary infusion usually n be started. The use of intravenous Streptokinase mediately after the diagnosis of a myocardial farction is established may in some patients be fective in reestablishing perfusion in less time. esently, this approach is under further investigation.

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# Editorial Comment

Kenneth B. Desser, M.D.

In the beginning myocardial infarcts were thought to arise as a consequence of blood clots. During the 1960's coronary thrombi fell into disfavor. The clot has experienced a revival and terms such as "acute coronary thrombosis" are now enjoying widespread use. How did this 180 degree swing occur? Pioneer studies were performed in postmortem patients days and even weeks after the acute event. In such a setting the clots had been dissolved by native plasmin. It should be recognized that the therapy advocated by Gann represents an attempt to accelerate and enhance the usual homeostatic mechanisms which result in thrombotic dissolution. Unfortunately, invasive study during acute infarction indicates that lysis induced by the thrombosis frequently occurs too late or is too little.

At this point it is acknowledged that selective thrombolysis is performed with the hope rather than the absolute conviction, that the extent of infarction is reduced and survival improved. A large cohort of patients would have to be studied with equal fervor and without introduction of thrombolytic agents in order to substantiate therapeutic value. On the other hand, systemic rather than selective infusion of these agents may prove promising and permit wide application of the basic treatment.

*Supported by the Biomedical Research Memorial Fund, Inc.*

## Chest Medicine

# Esophageal Transection by EEA Stapler for Control of Variceal Hemorrhage

Richard D. Ranne, M.D.
Hugo V. Villar, M.D.

Editors:
Bernard Levine, M.D.
Richard J. Lemen, M.D.
John J. Seidenfeld, M.D.

### Abstract

The treatment of bleeding esophageal varices in Child's Class C patients is associated with a high mortality rate, despite aggressive medical and surgical management. The technic of esophageal transection and re-anastomosis by EEA stapler has shown to rapidly and successfully control variceal hemorrhage with acceptable rates of rebleeding. This report details the technic of esophageal transection as an alternative method of controlling exsanguinating hemorrhage from bleeding esophageal varices in five seriously ill patients. There was no operative mortality in this group of patients and the incidence of recurrent variceal hemorrhage was about 20%. Additional methods of controlling variceal hemorrhage are also discussed, with comparison of the incidence of complications.

Key Words: variceal hemorrhage, EEA stapler, esophageal transection

### Report of Cases

Six Child's Class C patients with recurrent variceal hemorrhage secondary to alcoholic liver cirrhosis underwent EEA (end to end arastomosis) transection of the esophagus as an emergency procedure. These patients had failed aggressive medical management at control of bleeding and all were determined not to be portacaval shunt candidates due to encephalopathy, ascites, and/or liver insufficiency. There were n operative deaths and all patients showed immediat control of hemorrhage. One patient bled five week later and died from hemorrhage secondary t esophageal variceal rebleeding. The other five patient responded to postoperative medical management wit improved liver function, and were discharged home The longest follow-up in our series is 12 months.

### Technic

Esophageal transection and immediate re-anastomosis by EEA stapler is carried out through transverse or vertical upper abdominal incision. Th liver is inspected and portal pressures are documente via catheter placement in a mesenteric vein. Pressur measurements greater than 25 mm Hg are consisten with portal hypertension. A wedge liver biopsy is done. The esophagus is mobilized by incising the peritonea reflection over the cardia and lower esophagus. Mostl after blunt dissection, the distal esophagus is dissecte free and a ligature is passed around the esophagus, jus above the cardia. Preferred suture materials are thos that will let the knot slip down easily.

Once the esophagus is mobilized, a small transvers gastrostomy is performed 4 to 5 cm below th gastroesophageal junction. The appropriate EE cartridge is then advanced retrograde into th esophagus. The angulation of the EEA is critical to avoi gastric perforation at the fundus. Because of th instruments length, there is a tendency for the head t

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From: University of Arizona Health Sciences Center, Department of Surgery, Tucson, Arizona. Reprint Requests to: Hugo V. Villar, M.D., Department of Surgery, University of Arizona Health Sciences Center, Tucson, Arizona 85724.

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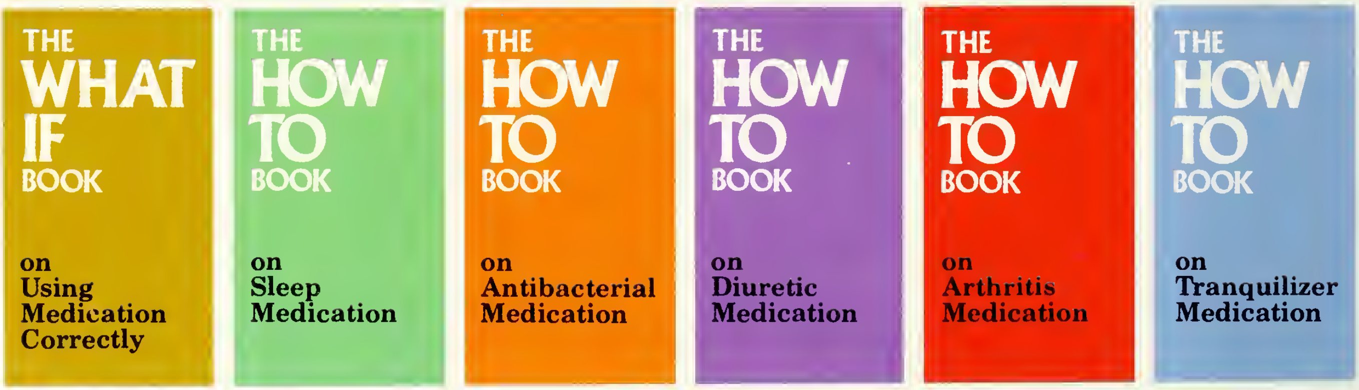
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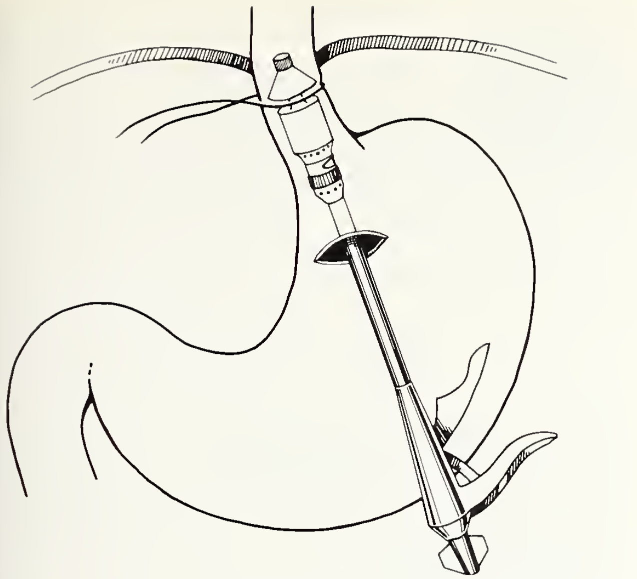

**Figure 1**
**acement of EEA stapler through gastrotomy with cartridge roximal to gastroesophageal junction.**

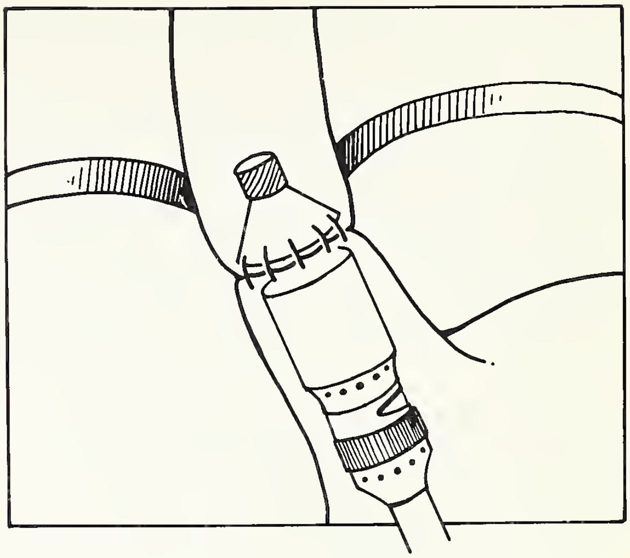

**Figure 2**
**EEA cartridge held in place with stay rupture prior to firing stapler.**

ress against the fundus rather than to go into the sophagus. The use of the EEA stapler with an angulation preferable to minimize this problem. An additional elpful maneuver is cutting the end of the nasogastric ube, introducing the open end on the nut of the artridge's head and using the nasogastric tube as a uide to slide the stapler into the esophagus. Gentle raction by the anesthesiologist of the divided asogastric tube will help in this regard. The suture is arefully tied around the open cartridge after its osition, 1.5 cm above the cardioesophageal junction, is stablished. The stapler is closed around the tied stay gature and fired. The stapler is then opened and emoved with inspection of the two rings of tissue and nspection of the anastomosis for integrity and absence f hemorrhage. The gastrostomy is closed after lacement of a nasogastric tube into the stomach. ostoperatively, the tube is removed and feedings are nitiated when normal bowel activity has returned.

## iscussion

The natural history of major variceal hemorrhage econdary to liver cirrhosis reveals that a mortality rate of 6% to 78% is to be expected.[1,2] Improved hospital care as reduced mortality to 50% overall, though aggressive actics of diagnosis, medical management, and shunting rocedures performed by well qualified surgeons has hown further dramatic improvement in survival. ndeed, the operative mortality for emergency shunting rocedures is 40% to 50%.[3,4] These results have inspired ariant approaches to this problem including variceal clerotherapy[5-7] and transection of the esophagus with he EEA stapler to control variceal hemorrhage.[8-11] ohnston reports the largest series of EEA esophageal tapling for variceal bleeding and notes a mortality rate f 18% in 60 patients over a five year period with an incidence of documented rebleeding from varices of only six percent.[12]

EEA stapling of the esophagus has been primarily reserved for patients who are determined not to be shunt candidates. The low operative mortality, as found in this report, demonstrates the usefulness of this procedure in controlling hemorrhage. The patients underlying coagulapathy, metabolic disorders, and liver failure may be improved medically in order to perform a shunting procedure electively. The incidence of rebleeding, is 16% overall for shunting procedures,[13] while rebleeding, in the initial two year follow-up, occurs in 18% to 30% of patients who have undergone esophageal transection, though not all bleeds are due to esophageal varices.[14]

Portal-systemic encephalopathy is not a direct complication of esophageal transection, therefore, this procedure may ultimately be most useful in patients who are at high risk of developing post-shunt encephalopathy. Clinical experience has shown that this group of patients consists of those with bilharzial cirrhosis and those with cirrhosis who have Child's Class C liver dysfunction, diabetes, or a history of encephalopathy.[14]

In summary, the present report demonstrates that EEA esophageal stapling is an alternative form of therapy for critically ill patients with uncontrolled variceal hemorrhage. This procedure has shown an acceptable incidence of rebleeding with lower operative mortality than emergency shunting procedures. Avoidance of shunt induced hepatic encephalopathy is a distinct advantage of esophageal transection. Longer follow-up periods are required to determine changes in five year mortality and overall incidence of recurrent hemorrhage.

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*Oncology*

# Clinical Antitumor Activity of the Interferons:

## A Short Update

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Editors:
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**Abstract**

The clinical antitumor activity of the various types o interferon is reviewed. Most of these results, obtained with natural and recombinant leukocyte interferon, fibroblast interferon, and lymphoblastoid interferon are preliminary. There is, however, enough data to suggest that phase II trials will be able to define severa interferon-sensitive tumors (breast cancer and leukemia being the most probable ones). The best dose schedule for interferon administration remains undefined Reduction of the frequent side effects (universal high fevers and chills, nausea, vomiting, neurologic disturbances, leukopenia, and thrombocytopenia) is a desirable goal, but there is some evidence that the interferons exhibit a linear toxicity-efficacy relationship with the doses used until now. As a word of caution against too much enthusiasm, it is reported that some in vitro results suggest that these biologic modifiers might enhance tumor growth under certain circumstances. In vitro and animal data might offer some guidelines for the synergistic combination of the interferons and cytotoxic chemotherapy.

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## troduction

The interferons were first described by Isaacs and ndenmann in 1957.[1] In their remarkable original periment, they observed that chicken egg orioallantoic membranes exposed to a heat-activated influenza virus released a substance that terferred with live virus replication. Since this scovery, our knowledge of the "interferon system"[2] s been considerably expanded. Several excellent views of the original preclinical studies of the titumoral effects of these glycoproteins and of the rious mechanisms of action of the interferons have een published.[3-6] This short update will focus on the ailable clinical data concerning the antitumoral effects the interferons.

## atural Leukocyte Interferon

Relatively massive production of human leukocyte terferon was made possible by the methodology of intell, using the leukocyte supply of the Finnish Red ross Blood Transfusion Service.[7] The first clinical trials uld then start in Scandinavia and they were reported 1973.[8] The demonstration of the clinical tolerability of tramuscular leukocyte interferon was followed by a nrandomized trial of interferon as an adjuvant eatment for osteogenic sarcomas.[9] The results in this nall group (33 patients) are encouraging, but the study mains suspect because of the use of "comtemporary" ntrols, a group of patients treated at other hospitals, nose prognostic features might not be the same as ose of the interferon-treated patients.

The various reports on the clinical activity of leukocyte terferon against human tumors are summarized in the ble. It is important to point out for the nononcologist at a phase I trial is one where the maximal tolerable se is being defined, frequently in patients with no easurable or objectively evaluable disease. These trials not pretend to define the drug's activity and this must kept in mind when these results are reviewed. ecause of the preliminary nature of most of these mmunications, minor, partial, and complete sponses are usually not detailed in the table and some gative reports were omitted. Various dosing hedules were used in these early studies, and this data omitted on purpose. Only future large scale phase II nical trials using the maximal tolerated leukocyte terferon administration schedules will allow a better finition of the exact efficacy of this agent. It is, wever, apparent from this table that these preliminary ports indicate a large field of activity for leukocyte terferon. This is very encouraging, as usually very inimal activity can be reported in phase I trials, which e mainly done in patients with previously intensively eated, advanced cancer.

The activity of interferon has been found to be edictable by the patient's previous response to emotherapy,[14] and it is interesting to observe that a milar parallelism occurs in the human tumor onogenic assay (Salmon SE, Durie BGM, Young L, Liu RM, Trown PW, Stebbing N: Effects of cloned human leukocyte interferons in the human tumor stem cell assay, submitted).

Two reports[14,20] comment on the correlation between interferon-induced leukopenia and tumor response. The relationship between toxicity and efficacy of antitumor treatments is the object of some controversy,[33,34] but it is possible that interferons, which are not simple cytotoxic agents, but rather "biological modifiers," need to be used at very high and slightly toxic dosages in order to produce simultaneous tumor and bone marrow inhibition.

The activity of leukocyte interferon against renal cell carcinoma,[21] a generally drug-resistant tumor, will need confirmation but may represent a significant advance in the treatment of this tumor. The significance of the activity of interferon against early bladder cancer[10-13] remains unclear and studies in more advanced cases are warranted.

## Recombinant (Cloned) Leukocyte Interferon

The rapid expansion of recombinant DNA technology has permitted the synthesis of various human interferons by using *E. coli* bacteria transformed by different plasmids.[35-37] This technique has considerably increased the availability of interferon, and recombinant leukocyte A interferon (IFN-$\alpha$A, also called IFN-$\alpha$2 or IFL-rA) has been recently introduced in to phase I clinical studies. Encouraging activity has already been reported ,[38-41] and is shown in the lower portion of the Table. Again, the preliminary nature of these findings must be kept in mind.

At the University of Arizona Cancer Center, a broad phase II study of IFN-$\alpha$2 has recently been started. Patient eligibility depends on the demonstration of IFN-$\alpha$A activity in the human tumor stem cell[42,43] against the particular patient's tumor and the presence of measurable disease. This study and many others will help to clarify the exact antitumoral activity of human recombinant leukocyte interferon.

## Fibroblast Interferon

Because of its scarce availability, this type of interferon has not been widely studied. Clinical activity has been reported in one patient with Hodgkin's disease[20] and two patients with melanoma.[44] Four of 16 patients with multiple myeloma and one of four with meningeal relapse from acute lymphocytic leukemia have had some benefit.[45]

## Lymphoblastoid Interferon

Several preliminary reports of the efficacy of this variant of interferon are available. Human lymphoblastoid interferon was shown to have antitumor activity in early phase I trials.[46] Melanoma was not found to be sensitive to lymphoblastoid interferon in eight patients participating in an early phase II study.[47] In a phase I study some activity was noticed in 1/1 chronic lymphocytic leukemias and 2/4 acute leukemias.[48] This agent has been found to have activity against chronic lymphocyte leukemia in five of seven patients who were

### Table
### Antitumoral Activity of Leukocyte Interferons in Cancer Patients

| Tumor Type | Responses*† | Comments | Reference |
|---|---|---|---|
| **Bladder** | 3/3 | All complete remissions of localized disease. | 10 |
| | 1/1 | | 11 |
| | 8/8 | In Reference 12, combined local and systemic treatment used. | 12 |
| | 2/2 | | 13 |
| **Breast** | 3/4 | See remark above for bladder tumors. | 12 |
| | 7/17 | Correlated with responsiveness to prior chemotherapy | 14 |
| | 3/9 | | 15 |
| | 1/? | | 16 |
| **Cervix** | 6/15 | Same remark as for study 12; mostly early lesions. | 17 |
| **Head and Neck** | 2/4 | 1/1 Base of the tongue, local and systemic.<br>1/3 Palatine tonsils with local therapy. | 18 |
| **Hodgkin's** | 1/1 | | 19 |
| | 3/3 | | 20 |
| **Kidney** | 6/13 | Response of lung metastases. | 21 |
| **Leukemia**** | | | |
| ALL | 5/5 | | 11 |
| AML | 2/3 | (see also reference 22) | 11 |
| CLL | 2/4 | | 14 |
| | 7/9 | | 23 |
| CML | 1/1 | | 11 |
| **Lymphoma**** | | | |
| NPDL | 3/6 | | 14 |
| | 5/7 | | 25 |
| DHL | 1/1 | Minor response. | 14 |
| | 0/3 | "Rapidly progressive patients." | 25 |
| **Lung** | 1/1 | Squamous cell, intrapleural therapy | 11 |
| | 4/8 | Adenocarcinoma. | 15 |
| | 0/12 | 10 squamous, 2 adeno | 24 |
| **Melanoma** | 2/2 | | 11 |
| | 1/1 | Injection into tumor nodules. | 12 |
| | 2/6 | | 15 |
| | 1/? | | 16 |
| | 6/35 | 2/18 Minor responses for lung metastases.<br>4/17 Responses for skin metastases; low-dose study. | 26 |
| **Myeloma** | 1/4 | Very minor response. | 11 |
| | 6/10 | Previously treated and untreated patients. | 14 |
| | 3/6 | | 15 |
| | 4/4 | Previously untreated. | 27 |
| | 1/1 | Previously treated. | 28 |
| **Neuroblastoma** | 1/1 | Local treatment. | 29 |
| **Ovary** | 1/1 | Intraperitoneal therapy. | 11 |
| | 0/13 | | 30 |
| **Prostate** | 3/6 | | 15 |
| **Sarcoma** | —— | Adjuvant non-randomized study. | 9 |
| (Osteogenic) | 2/3 | | 31 |
| | 0/10 | Phase II study, no data on response to prior chemotherapy. | 32 |
| **Skin** | 25/26 | Squamous cell and basal cell; local injections only. | 18 |
| **Stomach** | 4/7 | | 15 |
| | | *Recombinant Leukocyte Interferon* | |
| **Unknown** | 11/42 | No details as to tumor type. | 38 |
| **Breast** | 1/1 | | 39 |
| **CML**** | 1/1 | | 39 |
| **Colon** | 1/? | 7 of 100 advanced cancer patients responded in this phase I study. | 40 |
| **Kidney** | 1/? | | 40 |
| **Myeloma** | 3/? | | 40 |
| **NPDL**** | 1/? | | 40 |
| | 5/5 | | 41 |
| **Prostate** | 1/? | | 40 |

* Reponses include "mixed" and "minor" but *not* "stable disease."

†? Indicates a study where the number of patients with this tumor is not stated.

**Abbreviations: ALL = acute lymphocytic leukemia; AML = acute myelocytic leukemia;
CLL = chronic myelocytic leukemia; CML = chronic lymphocytic leukemia
NPDL = nodular poorly differentiated lymphocytic lymphoma;
DHL = diffuse histiocytic lymphoma.

entered in a phase I-II trial.[49] One of ten patients in another phase I trial[50] had a partial remission (undifferentiated carcinoma) and two patients, one with renal cell cancer and the other with diffuse histiocytic ymphoma, were found to respond to still another schedule of administration of this drug.[51] As is the case for leukocyte interferon, the doses and schedules still need to be defined and phase II trials with the optimal drug amounts are needed.

## Side Effects

The lay belief that interferon is a "miracle cancer drug" with virtually no side effects is, unfortunately, far from reality. While the interferons do have antitumor activity, their use is accompanied by severe side effects, the most common being high fevers and chills (which seem to abate with continued use).[40] Myalgias, arthralgias, headaches, disorientation, transient numbness of the hands and feet, nausea and vomiting, rapidly reversible (sometimes severe) leukopenia and thrombocytopenia have all been reported by several authors and are not rare.

## Conclusion

All of the different interferons that have been clinically tested seem to have some antitumor activity. The potential role of this class of agents in anticancer therapy will be evaluable only when the recently started phase II trials are published. Interferons will then need to be tested against standard chemotherapeutic agents to further define their usefulness and eventually they will be combined with cytotoxic drugs. In vivo[52-55] (animal) and in vitro (Aapro MS, Alberts DS, Salmon SE: nteractions of human leukocyte interferon with vinca alkaloids and other chemotherapeutic agents against human tumors in clonogenic assay) data suggestive of synergistic effects of interferon with such drugs are already available.

A final word of caution is needed. Several reports,[56,57] Ludwig CV, Durie BGM, Salmon SE, Moon TE: Tumor growth stimulation by interferons in vitro, submitted) have demonstrated an interferon-mediated enhancement of tumor colony growth in rare cases. The exact mportance of this finding is unknown. It might not be related to a specific activity of interferon, as similar results have also sometimes been seen with cytotoxic drugs (Aapro MS, unpublished). Enhancement of tumor growth by interferon has also been reported in one animal model where the tumor control was heavily dependent on immune mechanisms.[58] Such observations are disturbing, and a recent report[59] on the vitro enhancement of cultured Ewing's sarcoma nvasiveness by interferons is perplexing as is a report on decreased in vitro cardiac muscle contractility in the presence of interferon.[60] Further animal experiments are clearly needed to determine whether these results have any in vivo significance.

## Acknowledgement

The author gratefully acknowledges the assistance of Donald H. Berdeaux, M.D.

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## *Psychiatric Disorders*

# The Nourishment of the Mind
# Part I, Ugliness

William B. McGrath, M.D.

Editor:
Thomas E. Bittker, M.D.

Emphasis on physical conditioning has brought forth rograms and books galore. And none on mental itness! So, too, with diet. At the library or in a health ood store one would look in vain for information or nstructions on the nourishment of the mind.

St. Augustine wrote: "And men go to admire the high nountains and the immensity of the ocean and the ourse of the heavens. . .and neglect themselves."

Just this side of our stupendous Mogollon Rim are ome of the most hideous towns in Arizona. Uncurbed oads are like dirty fingernails with ragged cuticle. Front ards are pockmarked with empty bottles and cans and ardboard cartons, and strewn with old tires and rusting ragments of broken-down vehicles and dry weeds. igns are painted crudely and billboards are oversized nd garish.

In the city, too, one is assailed by unsightliness. Almost very main intersection is spoiled by service stations and narkets of cheapest possible construction, with fading aint and paper posters. One could list without libel the nterprises which display their bad taste: the onvenience markets and fast food chains; the shopping enters with their flat facades and barren parking lots; he outdoor advertisers who pimp for business and beer nd cigarettes.

Repulsive aspects of our surroundings are not just isual. In any park or campsite and even on the lake one annot get away from fecal language and the blaring of adios. A gentleperson cannot escape the rudeness of eople in stores and in traffic. The effrontery and ontemptuousness of some television programs and nost commercials are pushed into our faces before we an turn aside or spit.

Oh, there are protests by so-called environmentalists. They parade, but their own appearance often belies or contradicts their purpose and hardly improves the scene: the poorly lettered placards, the unisex or sexless tank shirts and faded denim cutoffs; the stringy hair and granny glasses and droopy bosoms of the females, and the ponytails and scraggly beards of the poets. The slapping uncadenced gait of their tennis shoes is listless, disheartening.

One can develop a tolerance, an insensitivity to the stench of stockyards or feedlots or to the sulfurous odors of a smelter. In the same way, we come to ignore the abominable ugliness of our environment. Although noxious emanations may be filtered from attention, they still permeate the organism and poison its functioning. Marine animals in a polluted stream do not realize how sick and sickening they have become.

As with heavy metal poisoning, the harm of prolonged exposure to ugliness is insidious. For coarse examples we look to the prisons and slums. Foul language and viciously bad manners go with any environment that is totally devoid of beauty and swinishly indifferent to the fact that beauty is lacking.

We do offer at least token resistance to commercial display of violence and obscenity. But far more widespread and malicious is the flaunting of ugliness in general. We not only fail to protest, we actually reward insulting vulgarity and the greed which underlies it. A lot is written and understood about the porcupine sensitivity and defensiveness of the paranoid personality. Unfortunately overlooked is the opposite: the masochism and weak-mindedness of so many people who do not even know when they are being insulted and who let themselves be bullied by ridicule and aggression.

In ancient Rome the word for a high-rise apartment was "insula." The concept is carried forward by the

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rom: 4910 North 44th Street, Phoenix, Arizona 85014.

moats and drawbridges of medieval castles. In a modern suburb a billboard advertises "walled villas," and everywhere there are guards and iron gates.

The arts are said to be prophetic. Architecture is, and no less so than sculpture or music or the dance. An epitome or simple portent of civil decay has been the disappearance of the veranda or front porch. It is sad to realize that some of our younger readers have never sat in a swing on the porch, waving at neighbors and watching the children at play.

What happened? The first world war was a debacle. Men proved their willingness to kill and maim one another, an involvement and investment a thousandfold greater than anything ever directed to altruistic or constructive ends. Then came the great depression. All of mankind's illusions of brotherhood had been practically destroyed.

So we turned our backs on our neighbors and withdrew to our walled patios and inner courts.

When we phased out the front porch, in reality and in what it symbolized, we pulled the props out from under the so-called nuclear family. Without the support of the neighborhood almost any family will collapse of its own weight or scorch itself with cabin fever. Deprived of our tolerant supervision and avuncular care, the younger generations roamed the streets in wanton revolt.

Across the road from us the children are nearly grown. In all these years they have never waved or smiled or even looked up with a glance to acknowledge our existence. This is sad in itself but doubly so because the have no idea that anything is wrong. Such is th narcissism of our times: If they have no immediate us for us, we simply don't exist. Such, too, is the narcissis of our architecture: We'll retreat to our walled patio an look at our reflection in the pool!

Any civilization is beginning to decline when beauty i walled in and ugliness is otherwise allowed to take over The French revolution and the implosion of Tsaris Russia are only two among dozens of historica warnings. People simply cannot digest the junk foo which greedy merchants are pushing at them: th uncouth dress and deportment, the vile language, th loud noise and especially the vulgar visual degradation of the media and the marketplace.

It is a common and convenient cop-out to say tha society is to blame or that "they" should start a crusade No; any unnecessary ugliness is at one's personal individual expense. Jesus set the example when H drove the moneychangers out of the temple. Let it be o our conscience when we tolerate and even patroniz the purveyors of ugliness. Let us at least know enough t be resentful and ashamed when we do so.

The nourishment of the mind like that of the body i an exchange between itself and the environment Sickness is something more than the absence of health Ugliness is other than just the absence of beauty Ugliness of any kind is an attack on our sensibilities. An our sensibilities after all are our only claim to humanity

## Radiology

# ase of the Month
# o. 61

y Post, M.D.
ark M. Chernin, M.D.

litors:
nathan Levy, M.D.
nice R. Smith, M.D.

A 49-year-old asymptomatic male was found to have abnormal chest radiograph as part of a routine ysicial examination.

What are the plain radiographic and CT findings?
What is the differential diagnosis?
What is the most likely diagnosis?

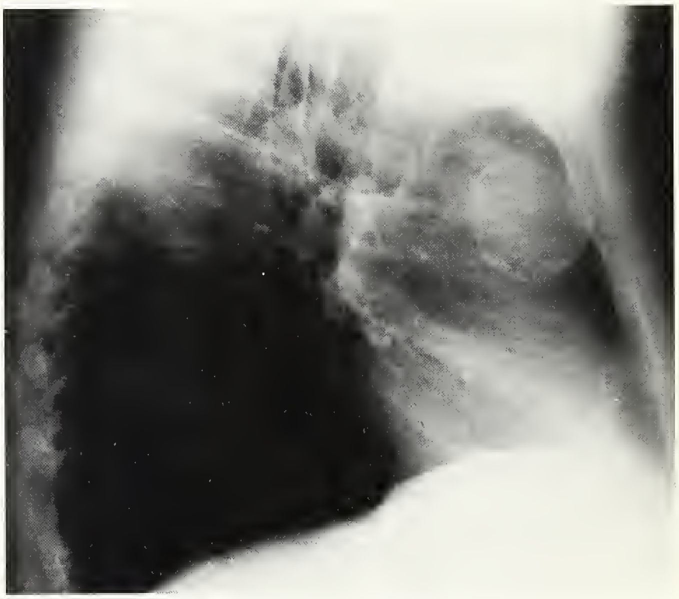

**Figure 1**
**Lateral view of chest.**

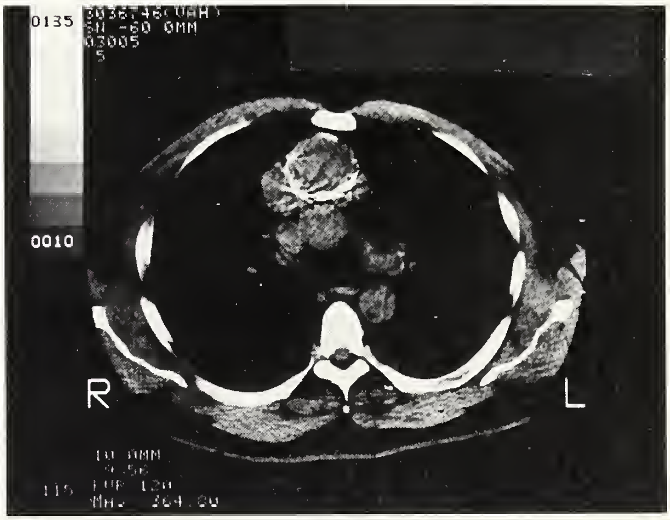

**Figure 2**
**CT image of the mediastinum just below the level of the aortic arch.**

*Continued on Page 724*

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om: University of Arizona Health Sciences Center, Department of adiology, Tucson, Arizona 85724. Reprint requests: Jay Post, M.D., epartment of Radiology, University of Arizona Health Sciences enter, Tucson, Arizona 85724.

## Diagnosis: Benign Thymoma

The lateral chest radiograph demonstrates a peripherally calcified anterior mediastinal mass. CT examination reveals the mass to be well marginated and separate from the ascending aorta. The differential diagnosis for a calcified anterior mediastinal mass includes aortic aneurysm, thymoma, benign and malignant germ cell neoplasms (teratoma, seminoma, choriocarcinoma, embryonal cell carcinoma), and lymphoma (postirradiation). The described CT findings mitigate against the diagnosis of aortic aneurysm. The age of the patient makes it unlikely that the findings are due to either teratoma or a malignant germ cell neoplasm. In patients with lymphoma, a calcified mediastinal mass may rarely be seen following radiation therapy, but the clinical history excludes the diagnosis of lymphoma in our patient. The clinical presentation, radiographic findings, and CT findings are all quite compatible with the diagnosis of thymoma.

Thymoma may occur at any age, although it is very rare in individuals below twenty years of age. Approximately 25% to 50% of patients with thymoma will also have myasthenia gravis.[1] Those who do not present with this associated condition are often asymptomatic. The incidence of malignancy in thymoma patients is approximately 30%.[2] However, the presence of malignancy is difficult to establish unless there is gross pathologic evidence of extension of neoplasm into adjacent structures.

The most common roentgenographic presentation is that of a round or oval shaped mass located in the anterior mediastinum at or just below the level of the aorta arch.[3,4] The mass will occasionally contain either diffuse or peripheral calcification.[1] The CT attenuation value of these lesions is usually similar to that of the chest wall musculature. This is often helpful in differentiating thymoma from a benign thymic cyst or thymolipoma (CT attenuation values similar to that of water or fat, respectively).[3] CT examination is not very accurate in the diagnosis of thymoma in patients younger that 40 yea of age due because in these patients an anteri mediastinal density could be due to normal thymu thymic hyperplasia, or thymoma.[5] However, in old patients, thymoma can be quite sensitively diagnosed CT examination. This is of particular clinical significan for two reasons: 1) nearly one-third of the lesions a malignant, and 2) patients with myasthenia grav sometimes show significant clinical improveme following thymectomy.

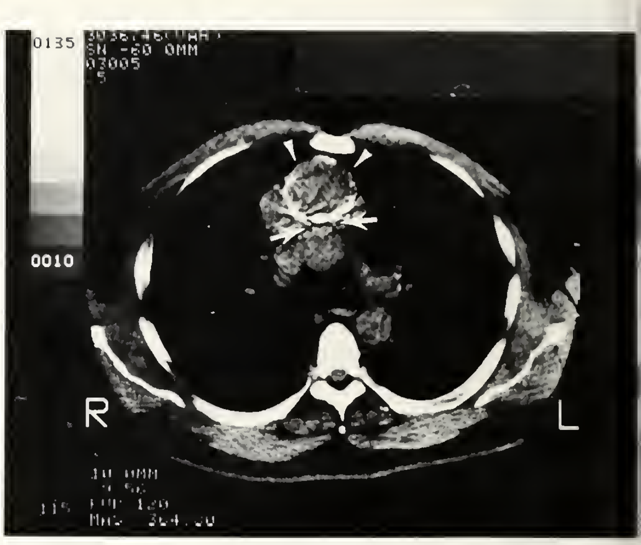

**Figure 3**
**Note the intact fascial fat plane (arrows) between t ascending aorta and the peripherally calcified anteri mediastinal mass (arrowheads).**

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*Special Article*

# ashimoto-Takayasu
# 84

M. Sandor, M.D.

I was comfortably slouched in my
air and surveyed my consultation
om. It looked somewhat different.
e pictures on the wall, the occasional
ble with the lamp and the plants, the
okcase behind me were there but
e of a matching pair of chairs next to
e table was gone and in its place was
s object. It was vaguely chair-like,
t of large dimensions and I noticed
at it would accommodate a big
rson and almost envelop him from
ad to toe. It had adjustable footrests
smaller people could be comfortably
sconced in it. It had avocado color
d light brown pseudowood
mmings imitating legs, although I
uld see that it reached to the floor.

Then it came to me. This was *IT*. This
s my own personal internist robot.

Shamefacedly I recalled how long it
ok the good salespeople to convince
e that no physician can practice
thout this tool. They pointed out to
me again and again how much time there can be saved by having the patient punch in the information, how much easier it is on the physician not to have to go through the rigmarole of historytaking, physical examination and discussion. It took a long time before I gave up my troglodytic ideas and antediluvial ways and finally joined my colleagues. It is to my credit though, that once I saw the light I did not stop halfway but went to the top. This was the best and newest available model. This was the creme de la creme. This was the Hashimoto-Takayasu 1984.

You know that the old fashioned robots with only printout capability are not in use any more and all the newer models have speaking capacity. Their price is determined by the size of their brain and all of them are self-contained units. All of them, that is, except for my H-T 1984. This model is connected to the largest worldwide medical databank, it has instantaneous access and retrieval ability including case reports from the latest issue of the *Ugandan Medical Journal*.

So here it was. I was proud of the fact that I specified its color to keep the decor balanced and as I was looking at it, it really was not out of place.

I remembered that I scheduled a complete examination and that the patient was in the waiting room. I chose Mrs. Kaplan to be the first patient for the machine. Sadie is an eightyish lady and preoccupied with her health. She is one of those patients—and you all know the type—for whom the visit to the doctor's office satisfies more of a social than physical need. We all like her, including the nurses and secretaries, but she is exasperating. She talks incessantly about her elimination, her family troubles, and her heart thump.

I brought Sadie back to my consultation room, sat her down in the contraption, adjusted the footrest—she is a slight person—and pressed the red button. The red light came on.

The machine said, "Ready" in a pleasant tenor voice.

I punched the green button and the machine said, "Complete."

Sadie started to tell me, in great detail, about the events over the past 72 hours but I firmly led her out into the waiting room.

As I returned to my chair, I punched the amber button and the robot began to give me the diagnoses. I am not going to bore you with details; suffice it to say in addition to the known conditions that Sadie has, I also learned that she has a 25% occlusion of her left iliac artery, that she has a skin cancer on her right wrist, that there is some heating up of one sigmoid diverticulum and that she has a smoldering pyelonephritis in the upper pole of her left kidney.

I was somewhat disturbed that I was unaware of these potential dangers and was not listening very carefully but suddenly realized that the machine kept talking about her cardiac arrhythmia. She has had ventricular ectopic beats and the robot asked whether she was ever treated for this—seemingly Sadie did not push the appropriate buttons when the history was taken.

I informed the robot that years ago, at Sadie's insistence, I gave her some procaineamide, but she had a miserable reaction to it including fever, joint pains, etcetera.

"Did you use quinidine?" asked the robot.

"Yes" I replied, "but she developed thrombocytopenic purpura."

The next question was "Did you use beta blockers?" I answered, "Yes, but she almost died from the side effects."

"Do you intend to try the calcium channel blockers?"

By this time I was somewhat irritated and told the robot to bug off, saying "I know that her arrhythmia is harmless, she has had it for many years, and I consider the treatment worse than the disease."

At this point a louder, more authoritative bass voice came on, "Doctor, having consulted the Global Board of Medicine, your license is revoked." With this statement the light winked off and the Hashimoto-Takayasu 1984 went dead.

The phone began to ring, I reached for it, and then realized that I was lying in my bed and it was 2:30 in the morning. It was the directory and the operator informed me that Sadie wanted a call. I dialed Sadie, talked to her for over twenty minutes about her bowels, about her heart thumping, and the ungrateful niece.

To this day Sadie does not know why I sounded so happy over the telephone that morning.

---

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# Cost Containment, Competition, and Medical Education

Health policy makers today are concerned almost exclusively with cost. John K. Iglehart of the Kaiser Foundation Health Plan interprets the Reagan administration "pro-competition" health proposal in this way, ". . .the prime goals of the exercise seem clear: to make price a supreme consideration in the purchase of care, to place the provider at financial risk for his or her medical actions and, perhaps above all to control future federal expenditures for health services."[1] There is no reference to quality of care or cost of health education. Cost containment is the mood. The fear of bankrupting our economy because of rising health care cost pervades the land. We are a society that wishes to live forever but does not wish to pay the price. Society does not look upon health care as a luxury but debates whether health is a public right.

Medical education receives a share of the health care dollar. Thus, it is not surprising to find proposals to decrease spending for education. Nationally we have already sustained discontinuance of direct capitation to schools, decreased funding of various graduate training programs, decreased support for student loan programs and reductions of biomedical research support. In Arizona there has been decreased funding of graduate training programs, decreased direct educational funding in University Hospital, and suggestions that county hospitals close despite their educational contributions.

Among the early cost containing notions was the focus on ambulatory care with the development of health maintenance organizations. Medical education's attempts to teach in such ambulatory settings have often caused financial stress. The added costs to a health maintenance organization virtually preclude undergraduate teaching without subsidy from outsid sources.

Other strategies with less of a direc impact on education are co-payment insurance policies with large deductibles, and multiple offerings o competitive insurance packages to individuals. More directly influencing education are the competitive biddin approaches in capitated programs. Permutations of such an approach include insurance policies which put the physician at risk for all costs once the contract is capitated.

The competitive approach to cost control will influence medical education. Since the early 1900's mos medical education has occurred in a hospital-patient environment. The m accessible of these teaching arenas h been the public hospitals. In such a setup the medical school faculty provides patient care in return for th right to educate students and to conduct clinical research. This model still common. The new competition approach wishes to decrease the quantity of public hospital beds and will therefore decrease the available teaching sites.

In addition to providing adequate health manpower, the medical education system must provide medic educators for the health care system. Prior to 1950 almost all clinical and bedside teaching was done by practicing community physicians. Following the early 1950's a shift fron voluntary to salaried teachers began. This largely occurred because federal research dollars became available for faculty salaries. No longer was patien care necessary to generate salary income for the faculty. Hence, physicians could become full-time university employees, receiving most their salary for the research and education role and a limited amount for patient care activities. Although voluntary faculty still played an all important role, they had less direct

Arizona
Medicine

sponsibility for undergraduate
ducation. The recent decline in
search dollars is changing this model.
hile most teaching remains the
sponsibility of full-time salaried
culty, in the clinical science years
ere is a shift back to patient
nerated income for salaries. A
mbination of basic salary plus income
nerated from patient care is the rule.
ll-time physician faculty may receive
uch less than 50% of their salary from
ivate endowments, state, and federal
urces. The remainder of salary must
generated from patient care.
These changes affect substantially the
iorities of activities in medical
hools. Before 1940 the major
terprise of schools of medicine was
ucation. The federal research dollar
used a shift from predominantly
ucation to predominantly research.
w the mood is predominantly
tient care with education and
search becoming secondary. The pro-
mpetitive approach will, of necessity,
hance the trend.
Tuition and fees have never
mpletely paid the cost of medical
ucation. During the clinical
dergraduate and graduate years, a
ge share of the costs have been
rne by patients, generally through
spitals, and partly through physicians
s and charges. Only a very small
ount was from tuition. This has been
tified from the secondary reward to
patient because of the presence of
physician-learners who provided
nificant service at no special charge.
as been presumed that the
ponsibility for education rested not
ly with the teachers and students but
ually with the consumers. Cost
ntrol challenges this source of
ucational support.
inally, the efforts at cost
tainment by competitive bid tend to
lude education from the resources
ditionally used in the past. When
ients have health care funded
ough third party carriers including
dicaid, they become less willing to
the subjects or at least the
dominant subjects of the
educational arena. There is a trend to exclude students and house officers from neighborhood health centers, for example. This is at the consumer's choice. Community hospitals decline undergraduate medical education partly because of the inconvenience but also because of the added cost to the hospital in terms of space, supplies, equipment, and various aspects of medical liability.

The U.S. spends a large amount of money on its health industry. Almost ten percent of the gross national product is invested largely by free choice and with a desire for excellence and high quality of care. The percent of the gross national product is not out of line with other developed countries in the world. We continue to rank among the most healthy nations regarding life expectancy and infant mortality. It is unlikely that our desire for excellence will change. Whether a free enterprise, competitive system can lower cost is yet to be proven. Moreover, whether it can lower the cost without lowering quality either directly or indirectly through the reduced quality of education is a major concern. Surely the current generation of physicians educated in the traditional system will oppose changes which will lower quality. However, an inferiorly trained generation, not recognizing quality could subtly replace the present generation. Therefore, society in short-sightedness could pass a poor quality of care onto future generations unknowingly. Protecting the educational quality of the health care professional has become a substantial challenge for the decade ahead.

Louis J. Kettel, M.D., Dean
College of Medicine

Robert M. Anderson, M.D.
Associate Dean
Continuing Medical Education
and Outreach

**Reference**

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# *Briefly Noted*

**Colin R. Bamford, M.D.,** Tucson, has been named acting head of the Department of Neurology at the Arizona College of Medicine.

**Jesse D. Cohen, M.D.,** Phoenix, was recently named director of the Hemophilia Center at St. Joseph's Hospital, Phoenix. The center is an affiliate of the Mountain States Regional Hemophilia Program and currently serves 112 hemophiliacs from throughout northern and central Arizona.

**David R. Long, M.D.,** Phoenix, discussed Coronary Artery Disease at the September *Health Talk* co-sponsored by the Arizona Medical Association and Blue Cross and Blue Shield of Arizona. *Health Talk* is a series of free informational meetings featuring informal talks by Arizona physicians on health topics of general interest.

**Jack O. McFarland, M.D.,** and **Arthur D. Nelson, M.D.,** Scottsdale, have been elected to the Board of Directors of Scottsdale Memorial Health System, Inc. Dr. McFarland is a former president of the medical staff and Dr. Nelson is the incumbent president and chief executive officer of the corporation.

**William F. Morgan, Jr., M.D.,** Phoenix, has been selected as co-director of the Allergy Clinic, Pediatric Ambulatory Care Center, St. Joseph's Hospital, Phoenix.

**Charles W. Needham, M.D.,** Tucson, has just published his third book, *The Principles of Dominance*. The book is about the radical way in which our brains differ from those of all other species.

**J. Michael Powers, M.D.,** Phoenix, wrote an article that appeared in the June 18 issue of *JAMA*. The article was titled "Decongestant-Induced Blepharospasm and Orofacial Dystonia."

**Betty Mays,** administrative assistant to **Patrick T. Phalen, M.D.,** Phoenix, was recently installed as president of the American Association of Medical Assistants (AAMA). The first annual National Medical Assistants Week was held November 1-5 to increase the awareness of professional medical assistants among members of the health professions as well as the general public. The theme of the week was medical assistants . . . partner in patient care.

**Attending the September meeting of ArMA's Sports Medicine Section were Drs. Eli Krigsten (left) and Timothy R. Harrington of Phoenix.**

**Drs. Richard Hawkins, Mesa (left) and Roman Lewicky, Flagstaff, discuss plans for the 10th Annual Sports Medicine Symposium at the September meeting of ARMA's Sports Medicine Section.**

The Arizona Medical Association
welcomes the following new members:
**Pima**
**Robert A. Van Putten, M.D.**
Psychiatry
8040 North Bounty Place, Tucson
Rutgers Medical School - 1978
**Pinal**
Jose L. Robledo, M.D.
Otorhinolaryngology
1015 East Florence Boulevard, Suite
Casa Grande
Autonomous University of Nuevo Leo
1975
**New Resident Members**
**Stanley E. Robinson, M.D.**
Good Samaritan Hospital
University of Arizona - 1982
**Gary B. Rosen, M.D.**
Maricopa Medical Center
University of Texas, Galveston - 1980

### What They Are Saying
### The Numbers—Washington Style

The Tax Foundation recently pointed
ıt that the top 50% of U.S. earners
iid 94% of the federal tax bill in 1980.
 fact, more than half of the total tax
ll was paid by the nine-million
xpayers who are in the top 10%
come bracket. *LACMA Physician*,
ıgust 16, 1982.

With the steadily increasing aging,
banization and relocation of our
pulation, the resulting feelings of
lation, friendlessness and
andonment have challenged the
erapeutic skills of the medical
ofession.
Many different approaches have
en utilized, some with excellent
sults. Nevertheless, depression and
ychophysiological reactions affecting
 body systems remain a very major
oblem. Misdiagnosed "senility" and
ementia" are often only the mask
hind which the aging person hides
 real problem: finding no content
d no meaning in his last life cycle.
Pet therapy is one of the modalities
t frequently employed. And yet it
n bring forth most gratifying results.
me enthusiastic physicians have
ported a lowering of the blood
essure and prolongation of life as
on as a puppy or a kitten enters the
 of the lonely elderly patient.
rhaps easier to observe and to prove
the change in mood and affect, the
surgence of joy and meaning in life,
d the feeling of again being wanted,
eded and loved, albeit "only" by a
 or a dog. It can make all the
ference between happiness and
happiness.
These, and many other facets of "pet
erapy" will be discussed at the:

Conference on Companion
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November 18 and 19, 1982
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The conference is sponsored by the
izona Department of Economic
curity, Arizona Department of Health
rvices, Arizona Governor's Council
 the Aging, University of Arizona
erontology Center, Arizona State
niversity School of Social Work and
any other organizations.
All physicians and other interested
rties are cordially invited.

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## *Obituary*

## John Jamison, M.D.
## 1941-1982

It is my privilege to represent the medical community to speak a few words this afternoon to honor John Jamison, Physician.

Over twenty five hundred years ago, Hippocrates, the father of medicine, in speaking of our profession, said: "Life is short, the art is long." John Jamison bore the burden of both aspects of that statement. His life, tragically was cut short. It is medicine's loss, for, the art is long and he served the profession well. From his twentieth year, when John embarked on the study of medicine, he stood with hat in hand before the demands the profession made on him. Not just four years of medical training, but a lifetime of giving himself to the discipline of medicine.

Medicine is both science and art. As a scientist John brought to the laboratory a brilliant, inquisitive, discerning mind. For the art, John brought to the bedside sensitivity, sympathy, caring, and kindness. A doctor who is only a scientist is a technician. A doctor who is only an artist is a charlatan. John Jamison combined the best of the science and art of medicine and deserves the title physician.

He was respected by the entire medical community. His competence and judgment as a radiologist were unquestioned. He served his patients well and in serving his colleagues and the hospital he accepted with grace and dignity the many tiresome and irksome. administrative and committee duties which are necessary in the day to day running of a hospital. As John worked among us, one vital ingredient of his personality was an exuberant, irrepressible sense of humor. John saw the comic dimension of life. And his wit and humor on many occasions proved the adage that laughter was indeed the best medicine, and he saved us from taking ourselves too seriously.

John Jamison lived his life with both passion and compassion, with both courage and kindness. These traits were woven into the fabric of his entire life. They are what made him a physician *par excellence*. They are what took him to that lonely road east of Flagstaff on Labor Day. We in the medical profession honor John Jamison's memory. He will be missed in the corridors and conference rooms of Flagstaff Community Hospital. We will miss him as a friend and as a physician.

Lannie Hunter, M.D.
Flagstaff

Medical History

# Introduction of Penicillin in Syphilotherapy

John W Kennedy, M.D.

**Editorial Note:** Dr. R. C. Williams has written a merited tribute to Dr. John F. Mahoney in the history of the United States Public Health Service 1798-1950. Sometime about 1940, or shortly thereafter, the glorious years for the Public Health Service gradually rang down. It is now so dominated and divided by politics that it has lost its stature and original mission; and as a last straw the Surgeon General appointment is now a political plum. The present encumbent is a pediatric surgeon.

It was my good fortune to serve at the USPH hospital in Stapleton, New York (1936-1939) when Dr. Mahoney was at the acme of his investigative work on venereal disease. The patients were principally merchant seaman with plenty of gonococci and spirochetes on board. Dr. Frank Liberson, Chief of Radiology, was a great procurement agent for items for which there were no funds. At the time x-radiation enjoyed some popularity as a treatment for certain infections, carbuncles, cellulitis, tuberculous adenitis, and gas gangrene, come to mind.

Doctor Mahoney kindly allowed us to use some of his rabbits to test the efficacy of x-radiation on streptococcus induced perotonitis. The results were encouraging, but fortunately the advent of the sulfa drugs made pursuit of this x-ray therapy an unrequited dream.

On my return from overseas WWII 1946, I visited Doctor Mahoney at his laboratory. He was certain about the effectiveness of penicillin in syphilis which he had ably demonstrated. He envisioned a world wide campaign to control the disease, this was not to be. Now, forty years later syphilis and the other delectable venereal diseases have "enjoyed" an explosive increase in popularity, thanks to the permissive "now" generation.

With these few introductory thoughts, here is the proper account of the Mahoney Saga by Doctor Williams. **JWK**

Dr. John F. Mahoney's name, in the minds of most persons is and will perhaps most often be connected with his preliminary study in 1943 on penicillin in syphilis—and rightly so. He made a tentative prediction then that "should more extensive and prolonged experience confirm the impression which is to be gained from the pilot study, a rebuilding of the structure of syphilis therapy may become necessary." The rebuilding did indeed become necessary, bringing with it an era of medical progress in venereal disease that has surpassed the one introduced by Ehrlich with the arsphenamines.

Doctor Mahoney's interests and talents in the wide field of syphilology became apparent early in his medical career. Following his internship, he entered the U.S. Public Health Service in 1917. One of his first tours of duty was concerned with the incidence of pulmonary tuberculosis among coal miners of the southern states. He was next assigned to work abroad on the medical aspects of immigration and in his spare time he visited and studied i the laboratories and clinics of the leading syphilologists of European countries. Returning from his tour of immigration duty in Europe in January 1929, he was appointed Clinical Director and Executive Officer of the U.S. Marine Hospital on Staten Island, New York. A large portion of his time was given over to experimental research in syphilis in the Venereal Disease Division laboratory which had begun operations in 1927 in a single room of the Marine Hospital.

In August 1929, Doctor Mahoney assumed direction of the laboratory (later renamed the Venereal Disease Research Laboratory) at Staten Island, and under his guidance the scope of investigative work gradually encompassed a multiplicity of scientifi problems, from basic biology to applie research. In the beginning, the progra centered almost entirely on experimental animal syphilis, but the laboratory gradually was enlarged to include investigative efforts directed toward the solution of fundamental scientific questions concerned with several venereal diseases, toward the clinical evaluation of treatment methods, and to control work in the serum diagnosis of syphilis. The latter activity eventually reached into the majority of countries of the western hemisphere, as well as into all of the states and territories of the United States. Shortly after World War II, Doctor Mahoney's remarkable skills and leadership were internationally recognized by his appointment to the chairmanship of the Expert Committee on Venereal Infections of the World Health Organization.

Doctor Mahoney's work on the application of penicillin to syphilotherapy has been only one of h many contributions to venereal disease research. He and his associates at the Venereal Disease Research Laboratory

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In the treatment of insomnia

# Good mornings start with restful nights.

## Dalmane *(flurazepam HCl/Roche)* patients fall asleep faster, sleep longer and seldom awaken with morning hangover.

Feeling well rested in the morning usually means having slept well the night before. And for insomniac patients receiving hypnotic therapy, a good morning also means awakening with few side effects from their medication. Many physicians choose Dalmane for their patients who suffer from insomnia for this very reason.

Aside from enabling patients to fall asleep more quickly and sleep longer, Dalmane seldom causes morning hangover. Most Dalmane patients feel alert and refreshed when they awaken. In 53 paired-night clinical studies comparing Dalmane and placebo in 2010 insomniac patients with a variety of secondary diagnoses, most Dalmane patients awakened more alert and refreshed, and less groggy and drowsy, than on nights when they had taken only placebo.[1] In a double-blind crossover study of 42 patients in private practice, approximately three tin as many patients reported feeling refreshed and alert u awakening after a night on Dalmane (flurazepam/Roc compared to placebo nights.[2] This difference was high significant ($p<0.001$). And a retrospective study of 2 hospitalized patients who received Dalmane revealed a 3.1% incidence of side effects.[3]

While residual effects from Dalmane therapy are infrequent, patients should be cautioned about drinkin alcohol, driving or operating hazardous machinery aft ingesting the drug.

## Efficacy and safety in a broad range of patient types.

Over 2000 clinical trials involving more than 10,000 patients have shown that Dalmane patients fa asleep sooner, sleep longer and experience fewer noctu awakenings.[4] The safety and efficacy of Dalmane hav been demonstrated in medical and surgical hospitalize patients, in patients seen in office practice and in elderl patients.[5-8] Since the risk of oversedation, dizziness, co

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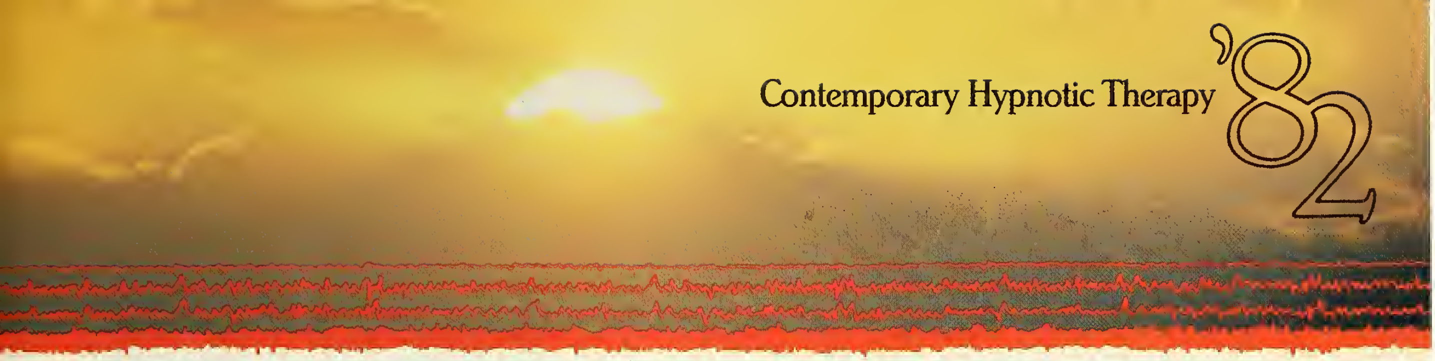

sion and/or ataxia increases with larger doses in the elder-
y, it is recommended that the dosage be limited to 15 mg.

Moreover, the efficacy and safety of Dalmane for the reatment of insomnia have been demonstrated in thouands of patients with a variety of primary medical condiions, including cardiovascular, neuropsychiatric, endocrinenetabolic, gastrointestinal, genitourinary, respiratory and nusculoskeletal disorders.[1] Dalmane (flurazepam HCl/Roche) s contraindicated in pregnancy and in patients hypersensiive to the drug.

## Avoids rebound insomnia upon discontinuation.

Rebound insomnia—a worsening of sleep beyond oretherapy levels after drug discontinuation—has been eported as a potential clinical problem with some hypnotcs.[9,10] However, this problem has not been reported with Dalmane. In eight out of eight sleep laboratory studies, here were no reports of rebound insomnia.[11] When you orescribe Dalmane, you can be confident of efficacy that enhances therapeutic progress. Your insomniac patients can oe assured of a restful night, night after night—a good start or a good morning.

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*flurazepam HCl/Roche*
*15-mg/30-mg capsules*

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.

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Her name is Dana. And, she was born with impaired hearing. But this year, thanks to the therapy she will receive at her local hearing and speech center, she'll be able to clearly hear the world around her for the first time.

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ave long served as the working ucleus of a national movement for eveloping uniform and improved erologic techniques; for basic research nd training in serology; and for valuation studies, surveys, distribution f standard materials, and other unctions concerned with national and orldwide elevation of standards of erologic performance. Doctor lahoney has also gained the respect nd admiration of fellow scientists and o-workers for his imaginative ontributions to studies on the artificial ultivation and life cycle of the virulent *reponema pallidum*; extensive syphilis rophylactic experiments on animals; a arefully controlled gonorrhea revention study in human beings; the evelopment of a delayed darkfield xamination technique; and the further evelopment and application of ntibiotics. Prior to the introduction of e antibiotics, he did outstanding work n the use and action of the arsenicals, smuth, and sulfonamides.

In 1943, penicillin was available only limited amounts and its clinical trial as thus confined largely to the yogenic infections. Doctor Mahoney, r. Richard C. Arnold, and their co-orkers at the laboratory grew the old and obtained enough of the ntibiotic to demonstrate its pirocheticidal activity in animal xperimentation. The results were ufficiently encouraging to induce a uman pilot study, initiated in June 943, with penicillin obtained through ar procurement agencies. Four male atients with darkfield-positive primary philis received intramuscular jections of 25,000 units of amorphous enicillin at four-hour intervals, night nd day, for eight days, or a total of 200,000 units. In October 1943, after a eries of careful darkfield, serologic, nd clinical examinations on these atients, Doctor Mahoney reported efore the annual session of the merican Public Health Association that enicillin apparently possessed owerful antisphilitic properties and, as n added advantage, promised ontoxicity combined with brevity of dministration to an exceptional egree.

Fortunately, all the procurement and nvestigative forces of organized study, ngendered by war, were available to onfirm and adapt these findings. By 944, the output of penicillin reached nass-quantity levels, but only after nillions of dollars, invested by overnment and by private nanufacturers, had been poured into ne all-out effort. Under the general uspices of a Penicillin Panel appointed y the Subcommittee on Venereal Disease of the National Research Council, the Army, Navy, and Public Health Service cooperated with the Office of Scientific Research and Development in an extensive study of the effect of penicillin in syphilis and gonorrhea. The whole story of penicillin, from its discovery by Fleming to its present-day refinement and application, plus that of other antibiotics, is one of the most stimulating chapters in the history of medical progress.

Six years later, in 1949, Doctor Mahoney and co-workers reported once more on the long-term progress of these first four patients to receive penicillin for early syphilis. The findings after 72 posttreatment months completely confirmed the effectiveness and safety of penicillin, as have the extensive coordinated studies which were motivated by Mahoney's original report. These continuing studies, carried out at the Venereal Disease Research Laboratory and at many other Public Health Service installations and cooperating institutions, have dealt with many factors: the progressively refined and improved preparations of penicillin itself; the optimal time-dose relationship for the drug; the differentiation between reinfection and relapse; the application of chemotherapy to the various stages of syphilis and to certain inconstant factors in the host; and the biology of the causative organism of syphilis. The efficacy, safety, and simplicity of penicillin therapy in syphilis and gonorrhea have been of inestimable value to the national control program, not only medically but also administratively.

The revolutionary and progressive changes which penicillin brought about in the field of venereal disease control can be fully understood and appreciated perhaps only by the veterans in this phase of public health. Doctor Mahoney is one of those veterans, and his contributions have been honored and will be long remembered. In addition to his chairmanship of the World Health Organization Expert Committee on Venereal Infections, he is also chairman of the National Advisory Serology Council, a member of the National Research Council, and member and fellow of other medical and scientific societies and organizations here and abroad.

In December 1949, Doctor Mahoney retired from the Public Health Service, to accept the position as Director of Laboratories, New York City Health Department. A few days later he was appointed Commissioner of Health for the City of New York.

## *ArMA Reports*

**The minutes appearing in this section have been condensed. A complete copy of them will be sent to any member requesting one.**

### EXECUTIVE COMMITTEE

The Executive Committee met on September 17, 1982.

Mr. Tom Prefling from Video Services was a special guest. Mr. Prefling explained the Video Service facility of SamCor. Their newest venture is "Health Highlights" which are half hour shows dealing with medical issues of interest to the general public and being carried by all three cable companies in the Phoenix area. Video Services is very much interested in having ArMA provide an advisory group to assist in the selection of speakers and issues. Segments would indicate that they were produced by SamCor in cooperation with, or association with the Arizona Medical Association. The committee felt that the matter should be studied more before a decision could be made. It was moved and carried that the matter of participating with SamCor in a cable TV series be referred to the Public Relations Committee and that members of that committee, Nikki Mertz, Dr. Kurtz, and other members of the Executive Committee who so desired, be requested to schedule a tour of SamCor's facilities with Tom Prefling and a viewing of prior productions, following which a recommendation be made by the Public Relations Committee for consideration by the Executive Committee during its next meeting.

The committee reviewed a request from Andrew W. Nichols, M.D., M.P.H. for ArMA's input into the formation of a state-wide advisory committee for the Rural Health Office by way of suggestions as to committee members or other groups which should be involved. It was moved and carried that the request for ArMA's participation in the formation of a state-wide advisory committee received from Dr. Andrew W. Nichols be referred to the Health Manpower Committee for review and recommendation.

A return of dues program which has been proposed by Administrators & Consultants International was reviewed and Misty Coumbe explained briefly how the program would work—

if a member were to continually maintain membership and pay dues annually he would be provided with increasing term life insurance coverage which would allow all dues to be returned to the member's estate upon death. It was moved and carried that the return of dues program proposed by Administrators & Consultants International be referred to the Medical Economics Committee for review and study, requesting that Committee's recommendation as to whether this would be a feasible addition to membership benefit.

It was moved and carried that ArMA's Long Range Planning Committee, in considering new goals and objectives for the Association, might consider how organized medicine could best assist in assuring that residency programs, especially those in Arizona, continue and that the July 8, 1982 correspondence and attachments from Dr. Baker be referred to that Committee for its consideration.

It was moved and carried that Dr. Kurtz proceed in whatever fashion to solicit from the Past Presidents of the Association and members of ArMA's Fifty Year Club voluntary contributions to the Foundation to create a fund to be used for sponsorship of a speaker during the annual meeting of the Association.

It was moved and carried that the correspondence received from Leland L. Fairbanks, M.D. be referred to the Public Relations Committee suggesting that the issues of smoking and other chemical dependencies are of a high priority and that the committee should review the materials and consider the possibility of developing brochures on subjects of smoking, obesity, and alcoholism and, where appropriate, seeking the assistance of Dr. Fairbanks.

It was moved and carried to refer the materials received from Leland L. Fairbanks, M.D. to the Legislative Committee requesting that the Committee consider active support of any anti-smoking (or like) legislation which might be introduced during the coming Legislative session.

Dr Kurtz reported on the meeting he attended on 9/9/82 of the Legislative Advisory Committee to the Aged. At this meeting senior citizens and others discussed perceived problems with doctors, fees, and acceptance of Medicare patients. Dr. Kurtz advised the members that he felt the senior citizens did believe that the medical profession was taking advantage of them and that ArMA should take the responsibility for clearing up the inaccuracies, discussing problems and assisting in seeking solutions.

It was moved and carried that a meeting be arranged between representatives of ArMA and all other interested parties to discuss problems perceived by senior citizens to exist, regarding their medical care and acceptance of Medicare assignment and to seek solutions to those problems that are found to, in fact, exist.

It was moved and carried that Dr. Melick be advised that the Executive Committee has reviewed the request contained in his letter of September 11, 1982, that the Association take a position in favor of removal of the mandatory CME requirements currently in state law and that, should he desire to do so, Dr. Melick should prepare a formal written resolution to be submitted to the Association's House of Delegates during its 1983 annual meeting.

It was moved and carried that Dr. Block, as Editor-In-Chief of *Arizona Medicine*, be requested to give consideration to publishing Dr. Dermont Melick's article entitled "Continuing Medical Education—The Pros and the Cons."

It was determined that the Nominating Committee would handle the question on how the current terms of the secretary and treasurer would be handled during the 1982 elections. This is because of the revision in the bylaws saying their terms had been changed to two year terms, but not to run concurrently.

## ArMPAC BOARD OF DIRECTORS

The ArMPAC Board of Directors met on September 18. The Chairman Dr. Meredith reported that membership was double that of the previous year. Kevin Walker reported the financial balance to be $5,353.65. (Attachment *A) Attachments can be obtained from the ArMA Office.*

Maude Reno resigned as Treasurer and it was moved and carried that A.D. Todd, M.D be appointed Treasurer and Kevin Walker, Executive Director, ArMPAC, Assistant Treasurer.

All members had been given a list of the primary contributions made and the election results. Kevin Walker explained that since the previously scheduled ArMPAC meeting has been cancelled, a list of suggested primary contributions had been sent to all members. Dr. Moore was not in agreement with these contributions and a discussion followed.

Lobbyist Alan Stanton gave a brie overview of how his relationship wit the Legislature varies from that of th physicians. He stressed the importance of more one-on-one contact between the legislators and the doctors. Allan mentioned that during the upcoming session, luncheons will take place weekly among legislators and doctors. The committee went through the list of candidates one by one and made recommendations for the amounts be contributed. (Attachment B) *Attachments can be obtained from the ArMA offices.*

A short discussion followed on whether to enter the other state-wi races contributionwise and it was decided to keep ArMPAC's original policy and only contribute to the Legislative races.

## GOVERNMENTAL SERVICES COMMITTEE

The Governmental Services Committee met on October 6, 1982

Dr. Meyer explained that the Steering Committee of Governmen Services had met and drawn up Te of Reference for the various sectio The following motions were made concerning these references.

It was moved and carried that the Environmental Health Section of th Governmental Services Committee eliminated. Liaison would be maintained with the Environmental Health Committee and that liaison would be internalized to liaison wit the Health Planning and Rules and Regulations section of the Governmental Services Committee.

It was moved and carried to ado the amended Terms of Reference f the Governmental Services Committee. *(Attachment A is available from the ArMA office.)*

It was moved and carried to ado the amended Terms of Reference f the Health Planning Section of the Governmental Services Committee. *(Attachment B is available from the ArMA office.)*

It was moved and carried to ado the Terms of Reference for the Ru and Regulations Section of the Governmental Services Committee *(Attachment C is available from the ArMA office.)*

Dr. Kossuth gave a brief report o the Rural Health Conference held i Prescott this past spring. It was mo l carried that the Governmental vices Committee recommend to the ard of Directors that the Arizona dical Association not support future ral Health Conferences at this time.

r. Bruce Shelton told the nmittee that the Ad Hoc Committee AHCCCS had met two or three es before rules and regulations re formulated on AHCCCS while Arizona Academy of Family sicians had met weekly over a r's time. He said he felt the doctors re receiving no leadership from the ociation in this matter. He added t major reform legislation was ning up in January, re: AHCCCS, l felt that the Association should e a position. He stated that doctors uld be advised that the progam is e to stay and should treat it ordingly. Dr Shelton concluded by ing that Dr. Henry Foley, ministrator of AHCCCS, predicts a % enrollment of the populations of zona within the next three years. ny problems in the first 6 days of iation and implementation of CCCS have arisen and a need sts for an Association committee t can react speedily and on a tinuing basis for the resolution of se problems.

was moved and carried that the vernmental Services Committee ress to the Board of Directors their cern about a lack of commitment participation in the AHCCCS gram and recommends to the ard of Directors that a permanent nmittee on AHCCCS for that pose, rather than an Ad Hoc mmittee, be established. It is further ommended that this commitment l concern can best be realized by ng of a full-time consultant to staff proposed AHCCCS Committee.

was moved and carried that the vernmental Services Committee uest that the Board of Directors ect the Arizona Delegation to oduce a resolution at the Interim eting of the American Medical sociation House of Delegates similar he Arizona Academy of Family sicians' resolution on sodium eling *(Attachment D is available at ArMA office).*

: was moved and carried that the vernmental Services Committee uest the Board of Directors take ion to direct the Arizona Delegation ntroduce the attached resolution at interim meeting of the American dical Assocation House of egates. *(Attachment E is available he ArMA office).*

t was moved and carried to accept letter of resignation from vrence J. Shapiro, M.D.

# Future Medical Meetings

The following institutions and organizations have been accredited for their continuing medical education programs by the Arizona Medical Association and/or the Accreditation Council for Continuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center of Northern Arizona
Good Samaritan Medical Center, Phoenix
Health Maintenance Associates, Phoenix
Maricopa Medical Center, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoenix
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program, (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

## NOVEMBER

**Diagnostic Advances**
November 13. U. of A. Health Sciences Center. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education. Approved for 8 hours of Category 1 credit.

**Dean's Clinical Rounds**
November 16. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Urologic-Radiologic Diagnosis II**
November 19-21. Scottsdale, Arizona. Sponsor: Maricopa County General Hospital. Contact: Alex Newman, M.D., Maricopa County General Hospital, 2601 West Roosevelt, Phoenix, Arizona 85008. Approved for 22 hours of Category 1 credit.

### November 20, 1982
### FEMALE SEXUALITY, FOR WOMEN ONLY
**Pointe of View Resort, Phoenix**

Family Planning Institute is sponsoring a one day workshop entitled "Female Sexuality, for Women Only," to be held Saturday, November 20, at the Pointe of View Resort. Topics to be discussed in the workshop are; understanding female sexuality problems, sexual communication skills, factors inhibiting sexual satisfaction, and cultural conditioning of sex roles. Facilitator is Rosalyn Meadow, Ph.D., a licensed and practicing sex educator and sex therapist. Registration is open to women of all ages. Continuing Education Units are available to Registered Nurses. For further information, contact Lorrie Reid-Larson at 997-7493.

### CONFERENCE ON COMPANION ANIMALS FOR THE ELDERLY
**November 18-19, 1982**
**Ramada Inn East**
**3801 E. Van Buren Street**
**Phoenix, Arizona**

The conference is sponsored by the Arizona Department of Economic Security, Arizona Department of Health Services, Arizona Governor's Council on the Aging, University of Arizona Gerontology Center, Arizona State University School of Social Work and may other organizations. All physicians and other interested parties are cordially invited.

**Current Perspectives II: Obesity, Diet, Nutrition and Disease**
November 20. ArMA Offices, Phoenix. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA Offices, 810 West Bethany Home Rd., Phoenix, Arizona 85013. (members no charge—nonmembers $20.) Approved for 3½ hours of Category 1 credit.

**Annual Fall Pediatric Conference "Gastroenterology, Nutrition and Urology"**
November 20-21. Arizona Inn, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

## DECEMBER

**Second Annual Critically Ill Child Symposium**
December 2-3. St. Joseph's Hospital & Medical Center, Cullen Auditorium, Phoenix. Sponsor: St. Joseph's Hospital and Medical Center, Department of Pediatric Education. Contact: Pediatric Education, St. Joseph's Hospital & Medical Center, 350 W. Thomas Road, Phoenix, AZ 85013. Approved for 11.3 hours of Category 1 credit.

**Pulmonary Medicine**
December 4. Ramada Safari Resort, Scottsdale. Sponsor: University of Arizona. Contact: Office of Continuing Medical Education. Approved for 8 hours of Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
December 14-16. St. Joseph's Hospital, Phoenix. Sponsor: ACLS, Az Affiliate Amer. Heart Assoc., & ArMA. Contact: John Raief, M.D., Emergency Room, St. Joseph's Hospital, Phoenix, Arizona 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Current perspectives III: Medical and Surgical Management of Coronary Artery Disease**
December 18. ArMA Offices, Phoenix. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20.) Approved for 3½ hours of Category 1 credit.

## 1983

## JANUARY

**Trauma Care '83—National Symposium on Trauma**
January 9-13. Scottsdale Hilton Hotel. Sponsor: John C. Lincoln Hospital and Health Center, Lincoln Institute of Surgery and Trauma, and Emergency Medicine Consultants. Contact: Robert J. Rankel, M.D., Chairman, Trauma Care '83, c/o John C. Lincoln Hospital and Health Center, 9211 North Second Street, Phoenix, Arizona 85020.

**Dean's Clinical Rounds**
January 12. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Current Perspectives IV: Newer Imaging Techniques**
January 19. ArMA Offices, Phoenix. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20). Approved for 3½ hours of Category 1 credit.

**Skeletal Fixation of Fractures**
January 21-22. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 11 hours Category 1 credit.

**Endocrinology**
January 22. U. of A. Health Sciences Center. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

**Computer Applications in Critical Care Medicine**
January 27-28. Registry Resort, Scottsdale. Sponsor: Phoenix Baptist Hospital and Medical Center. Contact: Sharon Luczu, Allied Health Coordinator, Phoenix Baptist Hospital and Medical Center, 6025 N. 20th Ave., Phoenix, Arizona. Approved for 12 hours of Category 1 credit.

## FEBRUARY

**Musculoskeletal Problems**
February 12. Ramada Safari Resort. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

**Fifth Annual International Cataract Surgery Symposium**
February 14-16. The Alamos Resort, Scottsdale, Arizona. Sponsor and Contact: The Eye Foundation, 525 N. 18th Street, Ste 504, Phoenix, Arizona 85006.

**Pediatric Update 1983**
February 14-17. La Posada Resort. Sponsor: St. Joseph's Hospital and Medical Center, and Phoenix Children's Hospital ( a Division of Good Samaritan Medical Center. Contact: Ronald A. Christensen, M.D., 1117 East Willetta, Phoenix, Arizona 85006. Arpproved for 16 hours of Category 1 credit.

**Current Perspectives V: Dilemmas of a Teenager**
February 16. ArMA Offices. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20). Approved for 3½ hours of Category 1 credit.

**Neurological Symptoms**
February 17-19. Arizona Inn, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center. Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**9th Annual Frontiers In Ophthalmology**
February 17-19. Mountain Shadows Resort, Scottsdale. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, 525 North 19th Street, Phoenix, Arizona 85006. Approved for hour per hour Category 1 credit.

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### 1983 CME CRUISE/CONFERENCES ON LEGAL-MEDICAL ISSUES

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### WINTER SCIENTIFIC MEETING O FAR WESTERN MEDICAL ASSOCIATION

**January 29—February 5, 1983**
**Aspen, Colorado**

Theme: Sports Medicine: A Mu Disciplinary Approach.

### SPRING SCIENTIFIC MEETING O FAR WESTERN MEDICAL ASSOCIATION

**March 5-12, 1983**
**Whistler Mountain, British Columb**

Theme: Geriatrics: A New Approac to An Old Problem

Please write to FWMA, Box 3817, Va Nuys, CA 91407 for detailed information.

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**The Tenth Annual Barrow Neurological Symposium**
February 24-26. La Posada Resort, Phoenix. Sponsor: St. Joseph's Hospita and Medical Center/Barrow Neurologic Institute. Contact: Richard A. Thompso M.D., Barrow Neurological Institute, 35 West Thomas Road, Phoenix, Arizona 85013. Approved for hour per hour Category 1 credit.

**Emergency Care Update -V**
February 28-March 2. Arizona Health Sciences Center, Tucson. Sponsor: U. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85 Approved for hour per hour Category 1 credit.

**How well would you perform if you had 30 minutes to make 45 or more life-saving decisions?**

TRAUMA CARE 83

There are no second chances. Managing a critically injured patient is one of the most intense, exacting responsibilities in modern medicine. It involves both broad-based knowledge and highly specialized protocols. Compressed time frames. And, above all, teamwork.

The roles and interrelationships between the trauma surgeon and his physician team will be the focus of Trauma Care '83, a national symposium on the tools and techniques of trauma medicine. Sessions have been structured to cater to the respective needs of surgeons, and emergency and critical care physicians.

Topics include the trauma scoring system, medical control of pre-hospital care, special trauma considerations (pregnant patients, burn victims, pediatrics and geriatrics), and incisive analyses of a variety of resuscitative and surgical procedures. Original papers, lectures and discussion groups will be hosted by the most distinguished faculty we've ever assembled.

For an informative look at a provocative subject, make your reservations for Trauma Care '83 today.

January 9-13, 1983

Scottsdale Hilton,
Scottsdale, Arizona

$350 registration fee prior to December 6, 1982; $400 thereafter

17 hours of CME Category 1 credit applied for

Sponsored by John C. Lincoln Hospital & Health Center, Lincoln Institute of Surgery & Trauma, Emergency Medicine Consultants

For more information, contact Robert Rankel, M.D. (Elaine Nairn), 9211 N. 2nd Street, Phoenix, AZ 85020, (602) 943-2381, ext. 1736

Faculty

Boyd Bigelow, M.D., F.C.C.P.
Arnold Calica, M.D.
James Carlisle, M.D., F.A.C.S.
Howard Champion, M.D., F.R.C.S.
Charles E. Cherubin, M.D., M.P.H., F.A.C.P., F.A.P.H.A.
Henry Cleveland, M.S., M.D., F.A.C.S.
Alasdair Conn, M.D.
Ronald Crowell, M.D.
Donald Davis, M.D., F.A.C.S.
Rosalie Deckert, M.D., F.A.C.P.
Ben Eiseman, M.D., F.A.C.S.
David Elliott, M.D.
N. Nelson Faux, M.D.
Forrest Holden, M.D.
Walter Koppenbrink, M.D.
Michael Krentz, M.D.
Norman McSwain, M.D., F.A.C.S.
Harvey Meislin, M.D.
Daniel O'Keeffe, M.D.
Robert J. Rankel, M.D.
Jeffrey A. Singer, M.D.
John Stafford, M.D., M.P.H.
John M. Stein, M.D., F.A.C.S.
Attila Szokol, M.D., F.A.C.S.
Robert Wilson, M.D., F.A.C.S.

### PEDIATRIC UPDATE—1983

**March 3-13, 1983**

**Frenchman's Reef, St. Thomas**

The Department of Pediatrics, Long Island Jewish-Hillside Medical Center presents **Pediatric Update—1983** the 12th Annual Pediatric postgraduate course, Frenchman's Reef, St. Thomas. March 8—March 13, 1983 (6 days—5 nights). $185 registration fee; $399 EP (double occupancy). 18 hours Category 1 ACCME. For information: Continuing Education Coordinator, Long Island Jewish-Hillside Medical Center, New Hyde Park, N.Y. 11042. (212) 470-2114.

## MARCH

**Changes & Controversies in Pediatrics**
March 3-6. Marriott Hotel, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Sixth Annual Mid-Winter Symposium in OB/GYN**
March 9-11. Scottsdale Hilton Hotel, Scottsdale. Sponsor: Marciopa County General Hospital and Phoenix OB/GYN Society. Contact: Secretary, Phoenix OB/GYN Society, 3412 N. Fourth Ave. Phoenix, Arizona 85013. Approved for 14 hours of Category 1 credit.

**4th Annual Sports Medicine Symposium**
March 10-12. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Fifth Annual Symposium on Current Concepts in the Management of Chronic Pain Syndromes**
March 12-13. Scottsdale Hilton Resort. Sponsor: Maricopa Medical Center. Contact: George Wallace M, D., Interim Chairman, Dept. of Anes., Director, Pain Clinic, Maricopa Medical Center, 2601 East Roosevelt, Phoenix, AZ 85008. Approved for hour per hour Category 1 credit.

**Current Perspective VI: Newer Aspects of VD**
March 16. ArMA Offices, Phoenix. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20). Approved for 3½ hours of Category 1 credit.

**Arizona Chest Symposium**
March 24-26. Doubletree Hotel, Tucson. Sponsor: U. of A. Health Sciences Center. Contact: Sandy Younker, R.N., Chest and Allergy Clinic, Tucson Medical Center, P.O. Box 42195, Tucson, AZ 85733. Approved for hour per hour Category 1 credit.

**Dermatology**
March 26. Arizona Health Sciences Center. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Dean's Clinical Rounds**
March 30. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Doctors Hospital, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

**Counter Transference Group**
Weekly, Thurs. 8-10 p.m. Sponsor: Phoenix Psychiatric Council. Contact: James E. Campbell, M.D., 5051 N. 34th St., Phoenix, AZ 85018. Approved for 2 hours Category 1 credit.

**Monthly Meeting of Tucson Radiologists**
Last Tues. of month. Plaza International, Tucson, AZ. Sponsor: U of A Medical Center, Dept. of Radiology. Contact: Irwin M. Freundlich, M.D., U of A Health Sciences Center, Dept. of Radiology, Tucson, AZ 85724. Approved for 2 hours Category 1 credit.

**Pediatric Grand Rounds**
Tuesday 7:30-8:30 a.m in Phoenix:
1st Tues.—Phoenix Indian Hospital,
2nd Tues.— Maricopa County Hospital,
3rd Tues.—Good Samaritan Hospital,
4th Tues.—St. Joseph's Hospital.
Sponsor: Maricopa County Hospital (Phoenix Hospital's Affiliated Pediatric Program). Contact: J. Kipp Charlton, M.D., 2601 E. Roosevelt, Phoenix, AZ 85008. Approved for 1 hour per session Category 1 credit.

**Review of Forensic Pathology Current Case, Special Topics**
Thursday, weekly, 11 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

## ARIZONA HEART INSTITUTE

4800 N. 22nd St., Phoenix, P.O. Box 10,000, Phoenix, AZ 85064. Contact: Ravi Koopot, M.D.

**Clinical Conference Cardiovascular Medicine**
Third Tues., 5:15 p.m., second floor classroom

## ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ. 85008. Contact: Arnold L. Kendall, M.D.

**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. Rm., Contact: Dr. Conger & Staff

**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Service Bldg., Conf. Rm.

**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. Conf. Rm.

## BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 3 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St Joseph's Hospital & Medical Center. Contact: John R. Green, M.D. Approved for 1 hour Category 1 credit.

**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.

**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.

**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurolog conference room.

**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedis and rehabilitation specialists.

**Neuropathology of Gross Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.

**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conf. Rm.

**Neuropathology or Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conf. Rm.

**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference

**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City 85372. Contact: Martha R. Newby, ED.D Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, Ju Sept. & Nov.

**Tumor Board**
Last Thursday of the month, 12 Noon, Educ. Center Classroom I & II, May, Jul Sept, & Nov.

**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

55 N. 34th St., Phoenix, AZ 85018.
ponsor: Camelback Hospital. Contact:
oward Gray, M.D. and Robert Meyer, M.D.
pproved for Category 1 credit.

**linical Conference**
d Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

00 South Dobson Road, Mesa, Arizona.
ontact: L.A. Rosati, M.D. Approved for
ategory 1 credit.

**ME Programs**
eekly, Tuesday, 7 p.m., Cafeteria-West
nd.

**linical Conference — Dept. of Medicine**
eekly, Thursday, 12:30-1:30 p.m. Buffet
nch, Grande Rm.

**B/GYN Medical Staff Conference**
eekly, Monday, 12:30-1:30 p.m. Grande
n.

**ediatric Case Conference**
d. Friday, 12:30 p.m., Grande 2.

## DOCTORS HOSPITAL

47 East Thomas Road, Phoenix, Arizona
016 Contact: Medical Staff Secretary for
ditional information.

**ysicians Continuing Education Program**
t Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

00 N. Wilmont Road, Tucson, AZ 85712.
ontact: Eric G. Ramsay, M.D. Approved
r Category 1 credit.

**amily Practice Department Meeting**
t Monday, 12 Noon, (March, June, Sept.
nd Dec.) Contact: R. Grossman, M.D.

**urgical Department Meeting**
d Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

15 N. Beaver Street, P.O. Box 1268,
agstaff AZ 86002. Contact: B. C.
rschberg, M.D., CME Program Clinical
onference. Approved for Category 1
edit.

**teresting Case Conference**
t Tuesday, 12:30 p.m., Tollefson Rm.

**inical Conferences**
eekly, Tuesdays, 12:30 p.m.,
ollefson Rm.

**umor Board Case Conference**
d Tues., 12:30 p.m., Hospital Conf. Rm.

**ortality & Morbidity Conference**
t Thurs., 12:30 p.m., Hospital Conf. Rm.

## GOOD SAMARITAN MEDICAL CENTER

11 East McDowell Rd., Phoenix, AZ.
pproved for Category 1 credit.

**bstetrical Sectional Conference**
t Monday, 12:30-1:30 p.m., Conf. Rm. E.

**ynecological Section Conference**
d Monday, 12:30-1:30 p.m., Conf. Rm. E.

**bsterical Sectional Conference**
h Monday, 12:30-1:30 p.m., Conf. Rm. E.

**ulmonary Grand Rounds**
eekly, Monday, 12 noon- 1 p.m.,
mphitheater.

**Family Practice**
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.

**Pediatric Grand Rounds**
3rd Tuesday, 7:30-8:30 a.m., Amphitheater.

**Family Practice**
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.

**Cardiology Grand Rounds**
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.

**Medical Noon Conference**
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.

**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.

**Family Practice**
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.

**Tumor Conference**
2nd, & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.

**Surgical Grand Rounds**
Weekly, Wednesday, 7:00-8:30 a.m., Amphitheater.

**Family Practice**
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.

**Medical Noon Conference**
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.

**Joint Tumor Gyn Conference**
2nd Fri., 12:00-1:00 p.m., Conf. Rms. E-F.

**Medicine Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.

**Neurology Grand Rounds**
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.

**Psychiatry Grand Rounds**
Weekly, Friday, 11:00-12:00 noon, Education Bldg. West.

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713.
Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.

**Surgical Conference**
Weekly, Monday 8:00 a.m., Contact: R. Fischer, M.D.

**Medical Conference**
Weekly, 12:30 p.m., Contact: Chief Medical Resident.

**OB/GYN Pathology Conference**
Weekly, Thursday, 1:30 p.m., Contact: Jay Fleishman, M.D.

**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

## MARICOPA MEDICAL CENTER

2601 E. Roosevelt, Phoenix, AZ 85008.
Contact: Leonard Tamsky, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.D.

**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Room.

**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.

**OB/GYN Dept. Grand Rounds**
Weekly, Tuesday, 12 Noon, Santa Cruz Room.

**Obstetrical Problem Conference**
Weekly, Tuesday, 7:30 a.m., Yavapai Rm.

**Orthopedic Conference**
Weekly, Tuesday, 7:30 a.m., Santa Cruz Room.

**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.

**Urology Discharge Planning Conference**
Weekly, Tuesday, 11:30 a.m., Station 42.

**Hand Surgery Conference**
Weekly, Wednesday, 7:30 a.m., Santa Cruz Room.

**Neurosurgery Discharge Planning**
Weekly, Wednesday, 1:30 p.m., Station 42.

**OB/Neonatology Seminar**
Weekly, Wednesday, 7:30 a.m., Yavapai Rm.

**Clinical Psychiatric Conference**
Weekly, Wednesday, 11-12 p.m., Mental Health Annex, Rm. 1346.

**Surgery Conference**
Weekly, Wednesday, 7-8 a.m., Surgical Dept.

**Current Concepts in Medicine & Surgery**
1st Thursday, 1 p.m., Dr. Hospital Class Rm., Contact: Dr. Tamsky.

**Cardiology Conference**
Weekly, Thursday, 2 p.m., Santa Cruz Room.

**OB/GYN Resident Conference**
Weekly,Thursday, 12 p.m., Yavapai Rm.

**GYN Endocrine Seminar**
1st & 3rd Friday, 12:30 p.m., Santa Cruz Room.

**OB/GYN Surgical Pathology Conf.**
Weekly, Friday, 7:30 a.m., Yavapai Rm.

**Orthopedic X-Ray Conference**
Weekly, Friday, 7:30 a.m., Santa Cruz Room.

## MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201.
Contact: E. John Wickman, M.D.

**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015.
Contact: J. Burr Ross, M.D., Approved for Category 1 credit.

**Clinical Conferences**
1st, 2nd & 3rd Tuesdays, 12 noon, 5th floor auditorium.

**CPC or Medical-Surgical Forum**
4th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016. Contact: Leland L. Fairbanks, M.D., Approved for Category 1 credit.

**Pediatric Grand Rounds**
1st Tuesday, 7:30-8:30 a.m., Contact: D. Randall, M.D.

**Clinical Staff Teaching Conference, Rm. A.**
Weekly, Wednesday, 7:30-8:30 a.m.

**Otolaryngology Grand Rounds**
4th Wednesday, 4-5 p.m., Conference Rm. A, Contact: N. Wendell Tood, M.D.

**Family Practice/Emergency Room Teaching Conference**
Thursday, Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

## PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036. Contact: George Scharf, M.D. Approved for Category 1 credit.

**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.

**Clinical Conferences**
Weekly, Tuesday, 12:30 p.m., Kiva Conference Rm.

**Psychiatric Clinical Conference**
2nd Friday, 11:30 a.m., B-Wing Conf. Rm., Contact: Medical Staff Secretary.

**Tumor Board Conference**
Weekly, Friday, 12 p.m., Kiva Conf. Rm. Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251. Contact: W. S. Williams, M.D., Approved for Category 1 credit.

**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge.

**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge.

**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge.

**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge.

**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge.

**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge.

**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge.

**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge.

**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge.

**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lounge.

**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lounge.

**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lounge.

**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge.

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M D.

**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.

**Genetics Conference**
Weekly, Monday, 12:30 p.m., Pediatric Department.

**Pediatric Rounds**
Weekly, Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.

**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.

**ECG Conference**
Weekly, Tuesday, 12:30 p.m., Pediatric Department.

**Medical Grand Rounds**
Weekly, Wednesday, 8 a.m., 1st Floor Conf. Room.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 8 a.m., PIMC.

**Visiting Professor Informal Presentation**
Weekly, Thursday, 9:30 a.m., 1st floor Conf. Rm.

**Visiting Professor Formal Presentation**
Weekly, Thursday, 12:30 p.m., PIMC.

**Nephrology Conference**
Weekly, Fridays, 12:30 p.m., Pediatric Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact: Wm. Moteforte.

**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact: Kim Sowards.

**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.

**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contact: S. Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ, Contact: Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly, Monday, 12:15 p.m., Auditorium.

**Chest Conference**
4th Monday, 12:15 p.m., Phillips Auditorium.

**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium.

**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium.

**Cardiovascular-Thoracic Record Review**
3rd Wednesday, 12:15 p.m., Auditorium.

**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips Auditorium.

**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium.

**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium.

**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium.

**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium.

## ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703. Contact: see below.

**Monthly Specialty Conference — Dept. c Surgery**
1st Monday, 7:30 a.m., Century Rm. A., Contact: Med. Staff Office.

**Grand Rounds: Medical Surgical, Family Practice, Pathology, Radiology**
Weekly, Thursday.

**Emergency Medicine Lectures**
Weekly, Thursday, 8 a.m., Century Rm.

**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm.

**Cardiology Conference**
Weekly, Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716. Contact: Eric G. Ramsay, M.D. Approved Category 1 credit.

**Cardiology Conference**
1st, 3rd, & 5th Mondays, 12 Noon, Conta M. Maximov, M.D.

**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. Mille M.D.

**Endocrinology Conference**
4th Monday, 12 Noon, Contact: M. Parke M.D.

**Nephrology Conference**
2nd Monday, 12 Noon, Contact: Stephe Seltzer

**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Lohman, M.D.

**Psychiatry Department Meeting**
3rd Monday, 12 Noon, Contact: Howard Winkler, M.D.

**Surgical Dept. Conference**
2nd Monday, 12 Noon, Contact: C. Pete Crowe, Jr., M.D.

**Hematology Conference**
4th Tuesday, 12 Noon, Contact: Gerald Giordano, M.D.

**Pulmonary/Infectious Disease Conferen**
Weekly except 4th, Tuesday, 12 Noon, Contact: B. Friedman, M.D.

**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay Kat M.D.

**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact: Lightner.

**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Foote, M.D.

**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.

**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, July, & Oct. Contact: C. Mangelsdorf, M

**Medical Conference**
Weekly, Wednesday, 8:00 a.m., Contact: Fuchs, M.D.

**Neurology-Neurosurgery Conference**
Weekly, Wednesday, 12 Noon, Contact: W. Buschsbaum, M.D.

**euroradiology Conference**
eekly, Thursday, 5:00 p.m., Contact: N. omar, M.D.
**Tumor Conference**
eekly, Thursday, 12 Noon, Contact: ancer Committee.
**—I Conference**
eekly, Friday, 12 Noon, Contact: Charles anner, M.D.
**nterhospital Nuclear Medicine Conference**
eekly, Friday, 7:15 a.m., Contact: S.V. ilts, M.D.
**B/GYN Conference**
st Friday, 7:30 a.m., Contact: Charles arker, M.D.
**B/GYN Pathology Conference**
rd Friday, 7:30 a.m., Contact: R. Spark, .D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

th Street and Indian School Road, hoenix, AZ 85012. Contact: Alfred eilbrunn, M.D. Approved for Category 1 redit.
**edical/Surgical GI Conference**
st & 3rd Monday, 3 p.m., Rm. 3134, ontact: Dr. Kozarek, Ext 413. Dr. Mertz, xt 493.
**rthopedic Surgery Conference**
nd Monday, 7:30 a.m., Rm 3134, Contact: r. Russo.
**urgery - Pathology Conference**
th Monday, 4:00 p.m., Rm 3134, Contact: r. Mertz & Dr. Lanard.
**ascular Conference**
nd Monday, 3 p.m., Rm. 3134, Contact: Dr. lintora
**I Grand Rounds**
eekly, Tuesday, 1 p.m., Contact: Drs. anowski, Kozarek, after GI Grand Rounds, m. T-5.
**I Radiology Clinical Correlation onference**
st and 3rd Tuesday, 12:00 noon, Rm. T-5, ontact: Dr. Sanowski.
**I Pathology Conference**
nd and 4th Tuesday, 12:00 noon, Rm. T-5, ontact: Dr. Sanowski.
**ousestaff Pulmonary Disease Teaching onf.**
eekly, Wed., 12:30-1:30 p.m., Rm. 4115, ontact: Dr. Rohwedder, Ext. 388.
**ancer Symposium**
st and 3rd Thursdays, 3 p.m., Rm. 3134, ontact: Dr. Byrne
**ardiology Conference**
nd Thursday, 1 p.m., Room T-5, Contact: r. Habibzedeh
**edical Surgical Chest Conference**
st & 3rd Thursday, 12:30 p.m., Rm. 4115 ontact: Dr. Rohwedder.
**edical Service Grand Rounds**
st, 2nd, 3rd. & 5th, Fridays, 11 a.m., Rm. -5, Contact: Dr. Zeller
**edical Mortality Conference**
th Friday, 11 a.m., Room T-5, Contact Dr. eller

## PRESCOTT VETERANS DMINISTRATION HOSPTIAL MEDICAL CENTER

rescott, Arizona 86313. Contacts listed elow. Approved for Category 1 credit.
**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.
**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

## TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.
**Medical Surgical Chest Conference**
Weekly, Tuesday, 2 p.m., Contact: Dr. Young
**Medical Grand Rounds**
Weekly, Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.
**Surgical Grand Rounds**
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam
**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rm. N318, Contact: Dept. of Internal Medicine.
**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.
**Vascular Radiology, Interesting Case Conf.**
Weekly, Thursday, 12:00 noon.
**Neurology Grand Rounds**
Weekly, Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.
**Radiology Conference**
1st Tuesday, 7:00 a.m.
**Operation Outreach**
2nd Tuesday, 6:30 p.m.
**Pathology Conference**
4th Tuesday, 7:00 a.m.
**Operation Outreach**
2nd Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for Category 1 credit.
**Anesthesiology Board Review Conference**
2nd & 4th Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contacts: Dr. Vaughn & Kryc.
**Anesthesiology Basic/Clinical Sciences Lectures**
Weekly, Thursday, 4-5 p.m., Room 5403.
**Anesthesiology Case Discussion**
Weekly, Wed., 7:00 a.m., AHSC, Dining Rm. C&D.
**Anesthesiology Resident Presentation**
1st Monday, 4-5 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.
**Cancer Center Tumor Board Seminar**
3rd Tuesday, Monthly, 12-1 p.m., HSC Auditorium, Contact: Cancer Center.
**Cardiac Catheterization Conference**
Weekly, Friday, 4:00 p.m., Contact: Dr. Temkin.
**Cardiology Research Conference**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Roeske.
**Tucson Cardiovascular Society**
1st Thursday, 6:00 p.m., AHSC, Contact: Dr. Byrne-Quinn.
**Clinical Immunology, Allergy & Rheumatology Rounds**
Every Friday, Noon-1 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.
**Cerebrovascular Disease Conference**
Mondays, 5-6 p.m., Weekly, Rm. 5505., Contact: Jerry Goldstone, M.D., Dept. of Surgery.
**Dermatology Conference**
4th Monday, 5:15 p.m., AHSC, Contact: Dr. R. Friedman.
**Dermatology Rounds**
Weekly, Wed., 11:30 a.m., Contact: Dr. Lynch.
**Endocrinology Seminar**
Weekly, Thursday, 12-1 p.m., Contact: Dr. Johnson.
**Emergency Medicine Grand Rounds**
Tuesdays, 9 a.m., AHSC, Contact: Dr. Sanders.
**GI Pathology Conference**
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus.
**GI Radiology Conference**
2nd. & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter.
**Head & Neck Tumor Management Conference**
Weekly, Wed., 4:00 p.m., Contact: Dr. Manning.
**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.
**Medical Grand Rounds**
Weekly, Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.
**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contacts: Drs. Hughes & Alcorn.
**Neuromuscular Disease Conference**
Weekly, Friday, 11:30 a.m., Contact: Dr. Stern.
**Neuropathology Case Review**
Weekly, Friday, 8:30 a.m., UAHSC, Dr. P. Johnson.
**Neuroradiology Conference**
Weekly, Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson.
**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.
**Neurosciences Seminar**
Weekly, Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford.
**Nuclear Medicine**
Weekly, Thursday, 7:30 a.m., AHSC Radiology Conference Rm.
**OB/GYN Lectures**
Weekly, Friday, 1 p.m., AHSC, Contact: Dr. C.D. Christian.
**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler.

**Ophthalmology Retina Fluoro. Conference**
Weekly, Thursday, 5 p.m., AHSC, Contact: Dr. H. Cross.

**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.

**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.

**Pathology Conference**
Weekly, Monday, 12 noon, AHSC, Contact: Dr. C.D. Christian.

**Pathology Seminar**
Weekly, Friday, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley.

**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.

**Pediatric Grand Rounds**
2nd, 4th & 5th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.

**Pediatric Problem Patient Conference**
Weekly, Wed., 8:00 a.m., Contact Dr. Lillian Valdes-Cruz.

**Pediatric Research Forum**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Otakar Koldovsky

**Pediatric Specialty Conference**
Weekly, Friday, 8:00 a.m., Contact: Dr. Marilyn Heines & Jane Ruggill.

**Psychiatric Grand Rounds**
Weekly, Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium.

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital.

**Pulmonary Rounds**
Weekly, Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.

**Chest Radiology**
Weekly, Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly, Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly, Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly, Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich.

**Radiology-Rheumatology Conference**
Weekly, Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.

**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact: Dr. Nagle.

**Residents Noon Conference**
Weekly,Tuesday & Thursday, 12:00 noon, AHSC, Contact: Dr. A. Greensher.

**Resident's Conference**
Weekly, Wed., 5-6 p.m., Diag. Radiolog Conf. Rm.

**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.

**Surgical Morbidity & Mortality Conference**
Weekly, Wed., 8:00 a.m., Contact: Dr. Wangensteen.

**Trauma Conference**
Thursday, 4:00-5:00 p.m.. AHSC, Rm. 5505.

**Toxicology Conference**
Weekly, Tuesday, 8:00 a.m., Contact: Dr. Keith Likes.

**Tucson Ultrasonography Group**
Weekly, Wed., 4:30 p.m., AHSC, Contact: Dr. I. Freundlich.

**General Urology Conference**
Weekly, Tue. & Thurs., 12:00 noon, AHSC & VA Hospital Contact: Dr. G.W. Drach.

**Vascular Surgery Conference**
Weekly, Tuesday, 4-6 p.m., AHSC, Contact Dr. J. Goldstone.

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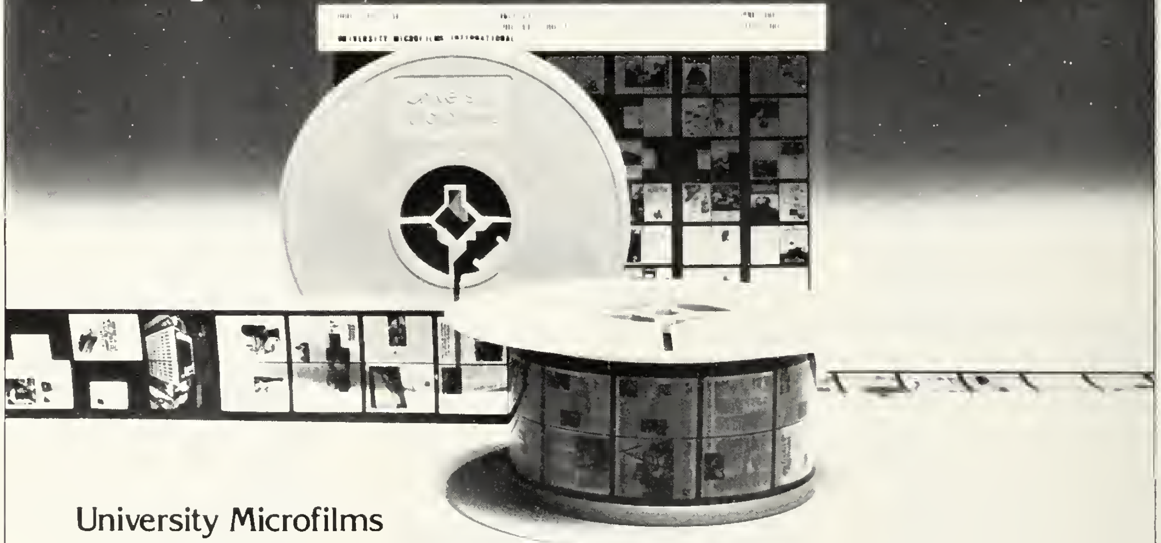

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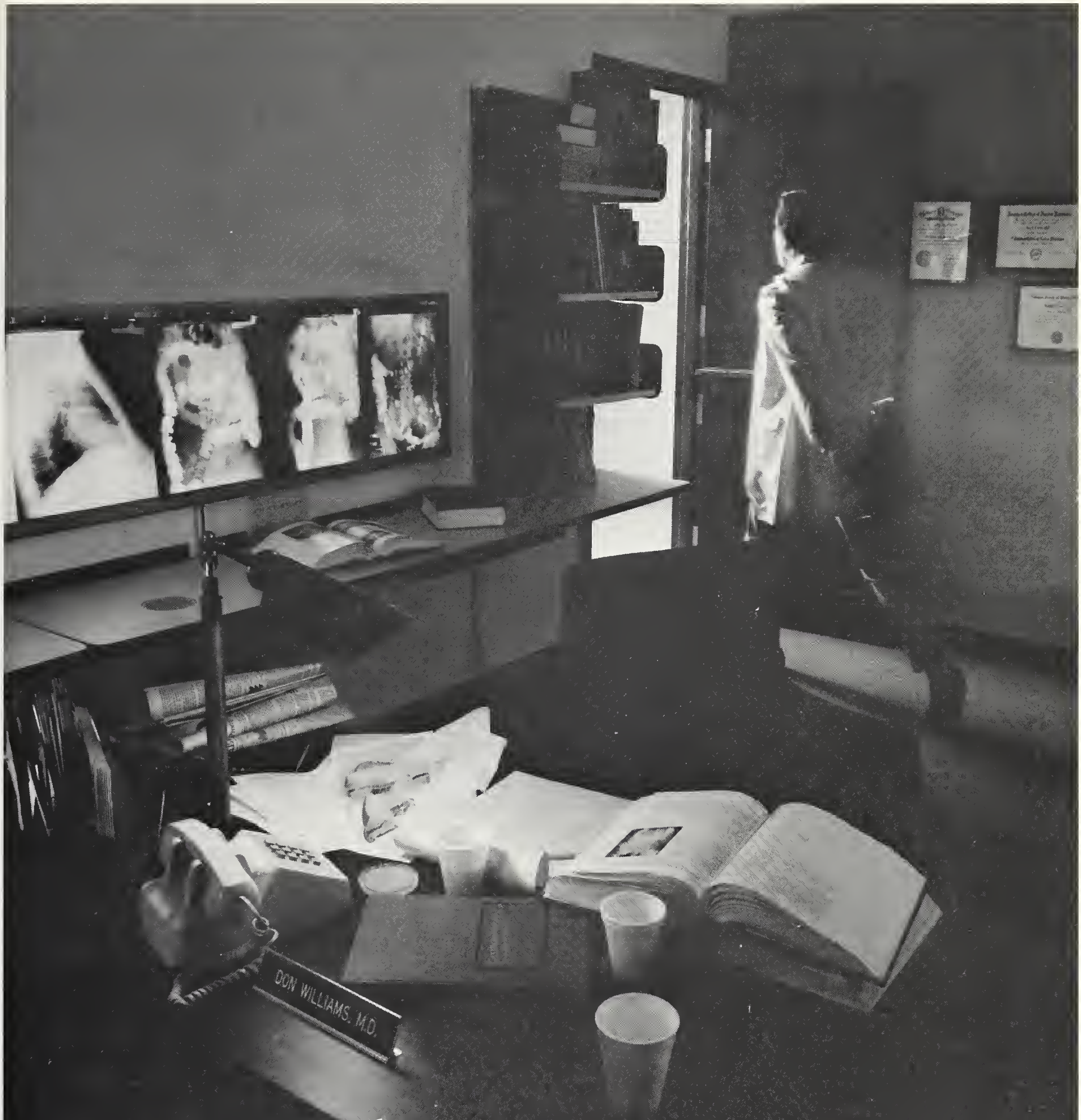

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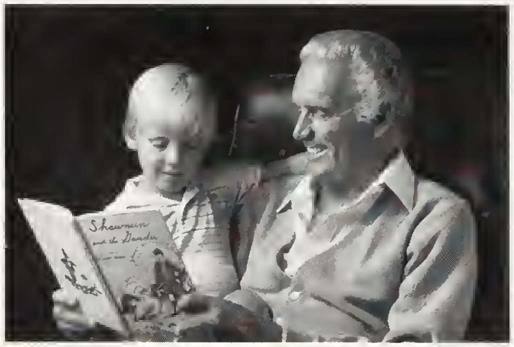

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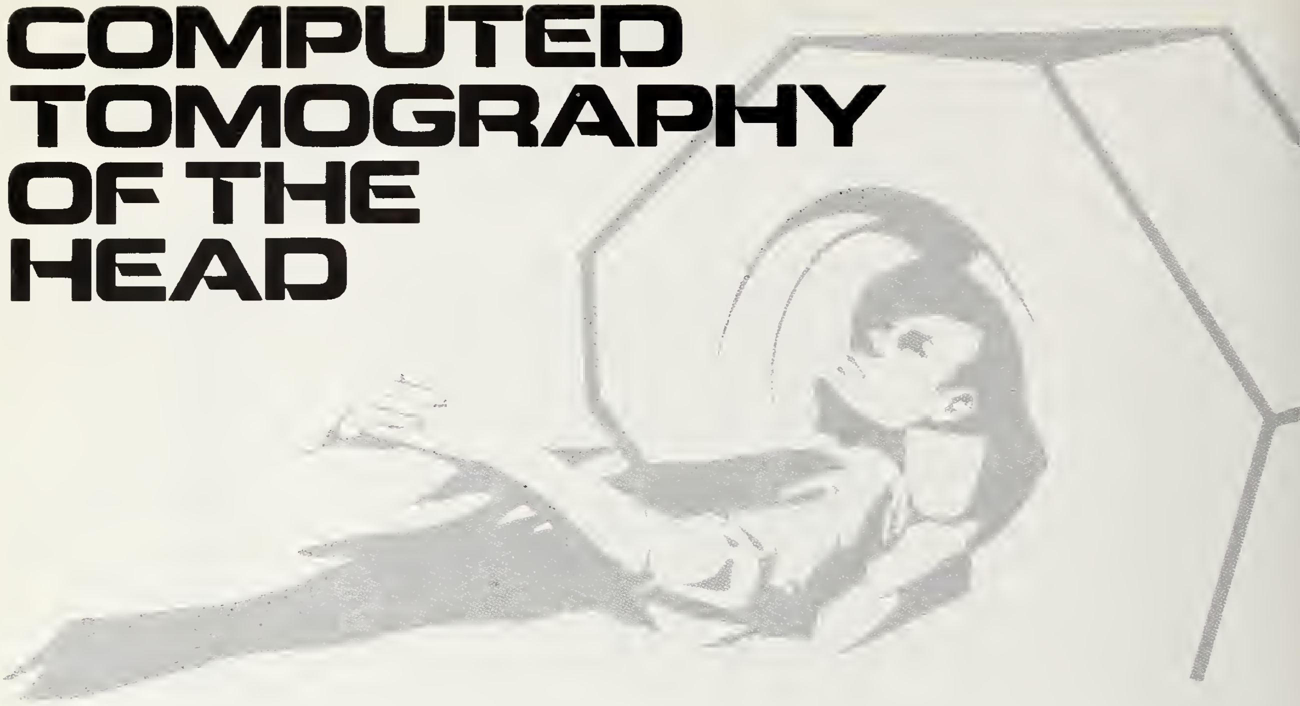

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Ru-Tuss Tablets act continuously for 10 to 12 hours

Ru-Tuss Tablets are an oral antihistaminic, nasal decongestant and anti-secretory preparation.

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**CONTRAINDICATIONS** Hypersensitivity to antihistamines or sympathomimetics Ru-Tuss Tablets are contraindicated in children under 12 years of age and in patients with glaucoma, bronchial asthma and women who are pregnant Concomitant use of MAO inhibitors is contraindicated

**WARNINGS** Ru-Tuss Tablets may cause drowsiness Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers.

**PRECAUTIONS** Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucoma, or urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See Warnings).

**OVERDOSAGE** Since the action of sustained release products may continue for as long as 12 hours, treatment of overdoses directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time Saline cathartics are useful for hastening evacuation of unreleased medication In children and infants, antihistamine overdosage may produce convulsions and death

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**DOSAGE AND ADMINISTRATION** Adults and children over 12 years of age, one tablet morning and evening Not recommended for children under 12 years of age Tablets are to be swallowed whole

**HOW SUPPLIED**:

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Phenylpropanolamine Hydrochloride
Pheniramine Maleate
Pyrilamine Maleate
Ammonium Chloride
Alcohol

Ru-Tuss Expectorant is an oral antitussive, antihistaminic, nasal decongestant anc
torant preparation

**INDICATIONS AND USAGE** Ru-Tuss Expectorant is indicated for symptomatic relief
respiratory congestion associated with pharyngitis, tracheitis, bronchitis, and aller
tis. Also, for the temporary relief of symptoms associated with hay fever, allergi
congestion and cough due to the common cold

**CONTRAINDICATIONS** Hypersensitivity to antihistamines Concomitant use of
hypertensive or antidepressant drug containing a monoamine oxidase in
contraindicated

Ru-Tuss Expectorant is contraindicated in patients with glaucoma, bronchial asth
in women who are pregnant.

**WARNINGS** Ru-Tuss Expectorant contains codeine phosphate, therefore, the patie
be warned of the potential that this drug may be habit forming Ru-Tuss Expecto
cause drowsiness Patients should be warned of the possible additive effect co
taking antihistamines with alcohol, hypnotics, sedatives and tranquilizers

**PRECAUTIONS** Patients taking Ru-Tuss Expectorant should avoid driving a motor v
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stomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigc
tress, hyperirritability, nervousness, and insomnia Overdoses may cause resl
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convulsions

**DOSAGE AND ADMINISTRATION** Adults: 1 or 2 teaspoonfuls, orally, every 4 hcu
exceed 10 teaspoonfuls in any 24-hour period

Children 6 to 12 years of age: ½ the adult dose, not to exceed 6 teaspoonfu
24-hour period Children 2 to 6 years of age. ½ teaspoonful every 4 hours
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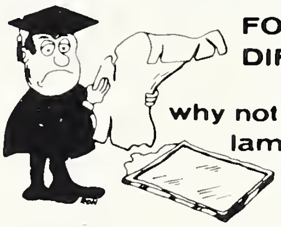

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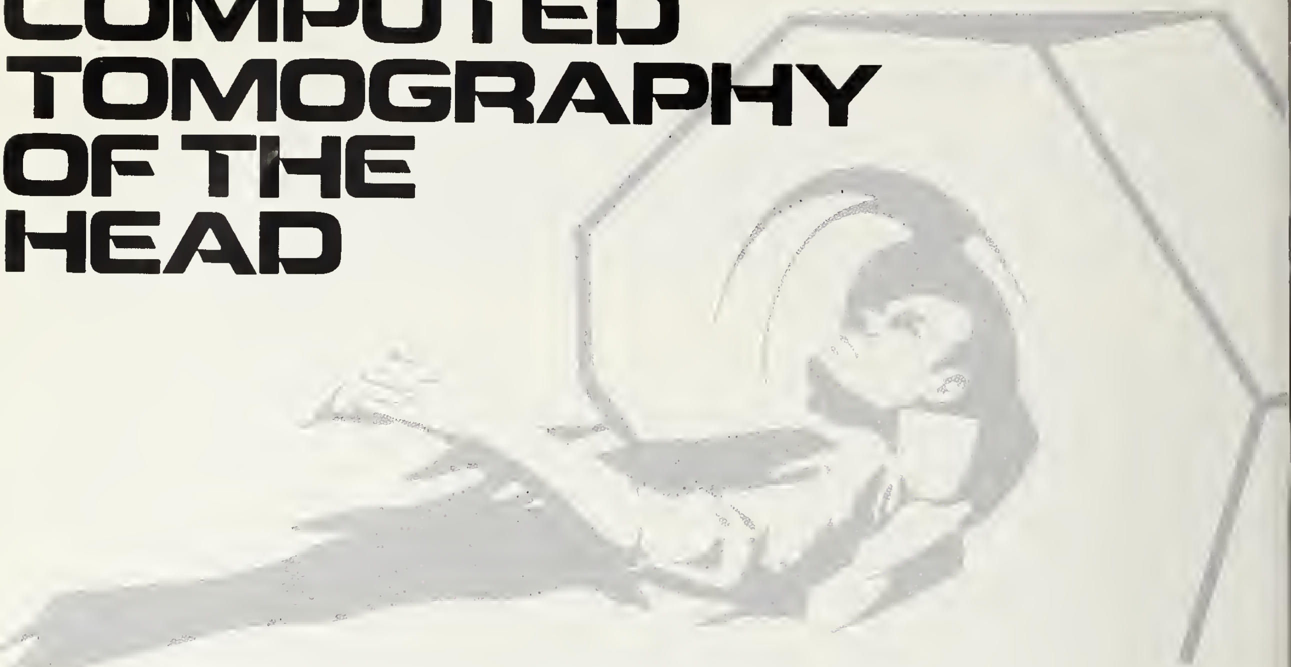

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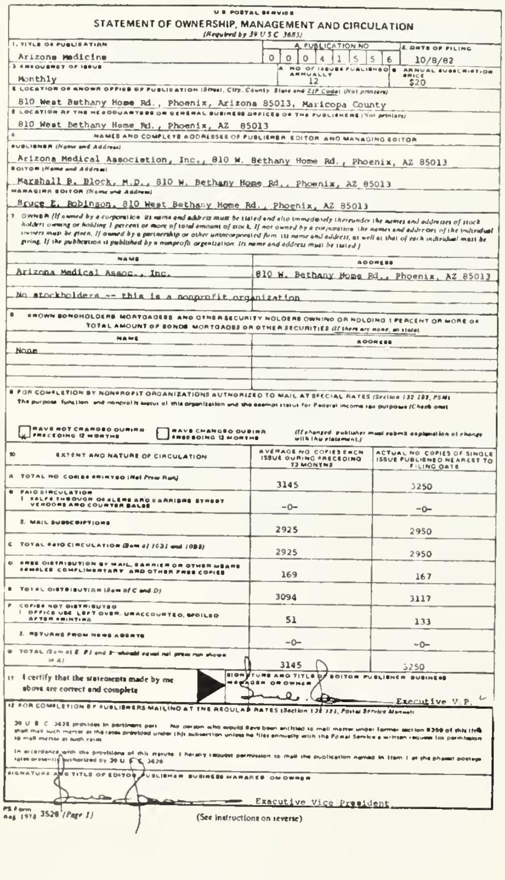

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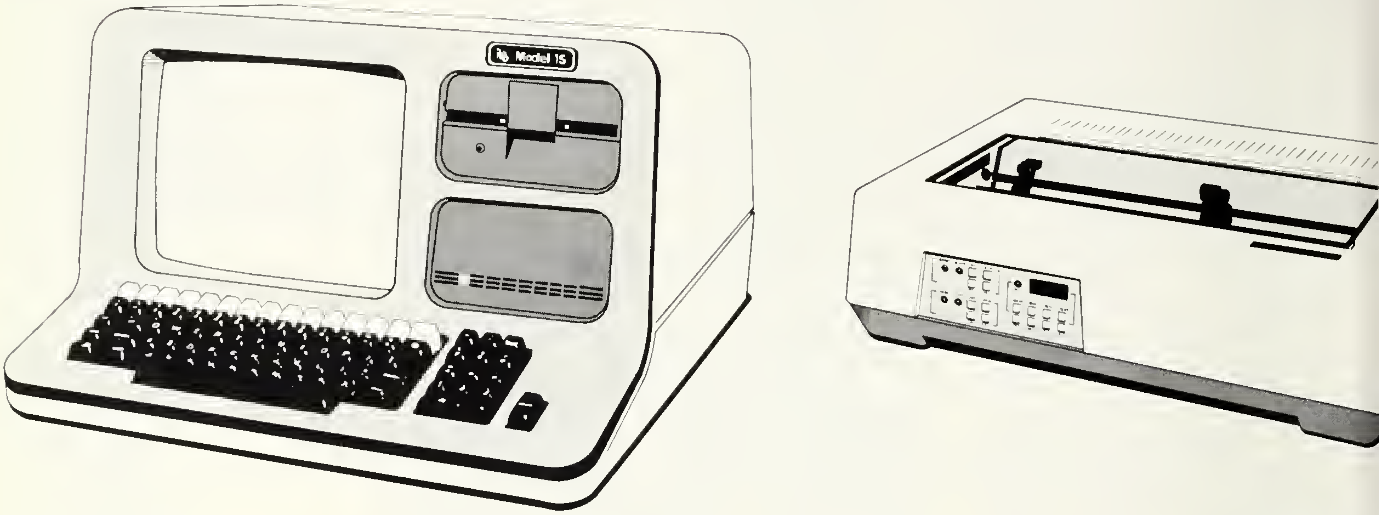

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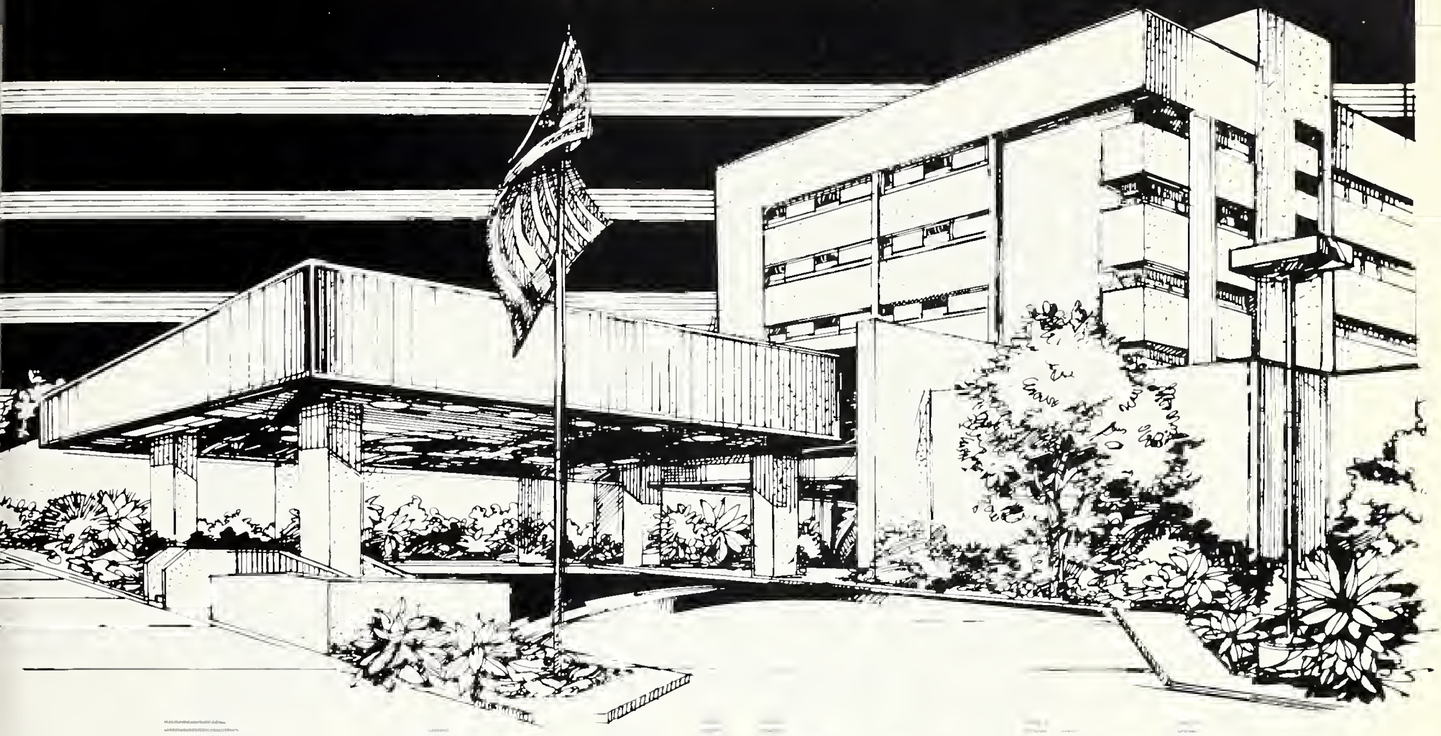

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# An added complication...
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**Brief Summary.**
**Consult the package literature for prescribing information.**

**Indications and Usage:** Ceclor® (cefaclor, Lilly) is indicated in he treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed o determine susceptibility of the causative organism to Ceclor.

**Contraindication:** Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

*Usage in Pregnancy*—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

*Usage in Infancy*—Safety of this product for use in infants less than one month of age has not been established.

**Adverse Reactions:** Adverse effects considered related to cefaclor therapy are uncommon and are listed below.

*Gastrointestinal* symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor.

*Hypersensitivity* reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

*Other* effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

*Causal Relationship Uncertain*—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

*Hepatic*—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

*Hematopoietic*—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

*Renal*—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281R]

**Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]**

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

*Note:* Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

**References**

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8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

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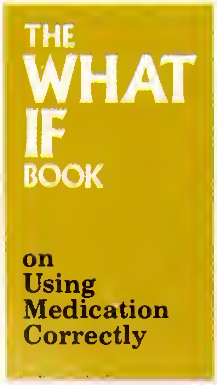

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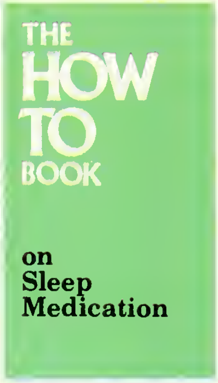

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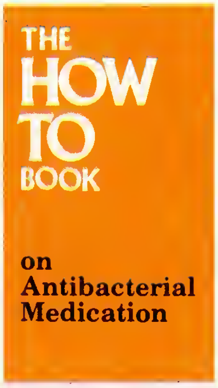

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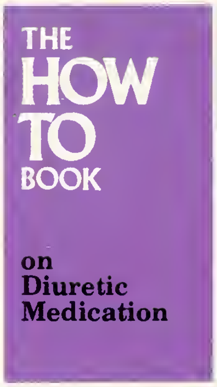

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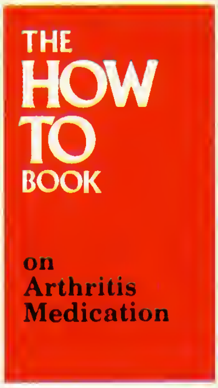

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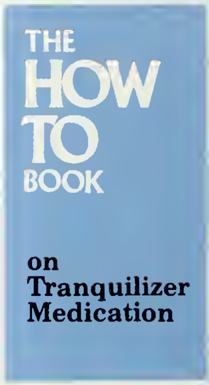

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*Cardiology*

# Ventricular Preexcitation

Ralph Kunkel, M.D.
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Editor:
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Ventricular preexcitation is present when part or all of the ventricular myocardium is activated earlier than expected had the impulse been conducted via the normal conduction system. Normally, the A-V node, His bundle, and bundle branches constitute the sole pathway whereby impulses are conducted between the atria and ventricles. For almost a century anatomists have been aware of other tracts of fibers that bypass part or all of this conduction network. The clinical importance of the preexcitation syndromes is a direct consequence of the arrhythmias with which they are associated. The electrocardiographic (ECG) manifestations can simulate myocardial infarction, bundle branch block, ventricular tachycardia and fibrillation.

Three preexcitation syndromes have been described: Wolff-Parkinson-White (WPW), Lown-Ganong-Levine (LGL), and Mahaim. The term "syndrome" should be reserved for those cases where electrocardiographic or electrophysiologic evidence of preexcitation is accompanied by clinical arrhythmias. Corresponding to these syndromes, three subsets of anomalous atrioventricular connections have been described. In 1893 Kent described bands of myocardial fibers connecting the atria directly with the ventricles. In 1930 Wolff, Parkinson, and White described a series of patients with "recurrent paroxysmal tachycardia" associated with a short PR interval and slurring of th QRS complex.

The clinical syndrome and associated ECG findings c LGL were described by Lown, Ganong and Levine i 1952.[2] In 1961, James proposed that such a syndrom could be explained by a tract passing directly from th atria to the His bundle, thereby bypassing th physiologic delay inherent in the A-V node. Such tract have been described anatomically both in norma individuals and in those with other clinical findings o the LGL syndrome. In 1947 Mahaim described fiber passing from the A-V node or His bundle and bundl branches and inserting directly into the ventricula myocardium.

Each of these clinical syndromes has an anatomic electrocardiographic and electrophysiologic correlate Three types of bypass tracts can also be defined from functional point of view. In WPW, Kent fibers bypas completely the normal conduction system. In LGL James fibers bypass the proximal conduction system an in Mahaim the distal conduction system is partiall bypassed.

## Wolff-Parkinson-White Syndrome

In the early development of the normal fetal heart th atria and ventricles are anatomically indistinct. Wit time, a layer of connective tissue normally separate these two structures with the exception of the A-V node Rudimentary connections frequently persist up to on year of age and for reasons unknown, these connection may never regress. When capable of propagatin impulses, these so called bundles of Kent form th

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From: The Institute for Cardiovascular Diseases, Good Samaritan Medical Center, 1111 East McDowell Road, Phoenix, Arizona 85006. Reprint Requests to: Alberto Benchimol, M.D., Good Samaritan Medical Center, P. O. Box 2989, Phoenix, Arizona 85062.

anatomic substrate for WPW.[2]

In the adult population, ventricular preexcitation is most often found in asymptomatic individuals with otherwise normal hearts. Indeed, the diagnosis is usually made by obtaining a routine ECG. The incidence of WPW is somewhat higher in the pediatric than adult population and is more often symptomatic in younger subjects. Symptoms result from either tachyarrhythmias or associated congenital heart disease. More frequently associated forms of congenital heart disease include Ebstein's anomaly, tetralogy of Fallot, atrial septal defect and corrected transposition.

The mainstay of diagnosis is the surface ECG. All of the ECG abnormalities depend on early activation of some portion of the ventricular myocardium. This activation begins in the superior aspect of the ventricle close to the ventricular terminus of the accessory pathway. Purkinje fibers are sparse in this region of the myocardium and conduction is therefore relatively slow. This phenomenon results in the initial slurring or delta wave of the QRS complex. In the usual case, the larger remaining portion of the ventricle is activated normally via the rapidly conducting His-Purkinje system. Abnormal QRS complexes therefore represent fusion beats between anomalous and normal atrioventricular conduction. (Figure 1). With bypass of the conduction delay inherent in the A-V node by the anomalous pathway, the P-R interval is shortened.

Any factor affecting A-V conduction will alter this balance. Accelerated A-V conduction will reduce the amount of ventricle depolarized via the anomalous pathway and thereby reduce or eliminate the delta wave. Conversely, any factor capable of slowing A-V conduction such as the Valsalva maneuver or carotid sinus pressure will accentuate the delta wave. This can be used diagnostically. Although nonspecific, the vectorcardiogram can also show slow changes in the early vectors.[3]

In equivocal cases, His bundle electrocardiography provides the most definitive diagnostic results. In WPW, the His bundle deflection either follows the onset of the QRS complex or precedes it by an abnormally brief interval. During electrophysiologic studies, premature atrial stimulation or rapid atrial pacing can be used to slow A-V conduction and further delay His bundle activation thereby accentuating anomalous conduction.[4]

Traditionally, WPW has been divided into Type A and B according to the presumed location of the bypass tract and direction of inscription of the delta wave. In Type A connections were said to exist between the left atrium and left ventricle. The direction of anomalous ventricular depolarization is anterior and to the right, producing tall R waves in the right precordial leads, thereby simulating right bundle branch block or a posterior myocardial infarction.

In Type B connections were presumed to exist between the right atrium and right ventricle. Activation is posterior and to the left producing predominantly negative delta waves in the right precordial leads thereby simulating left bundle branch block or anterior myocardial infarction. Particularly in Type B, Q waves can be seen in ECG leads II, III and aVF, simulating inferior wall myocardial infarction.[5]

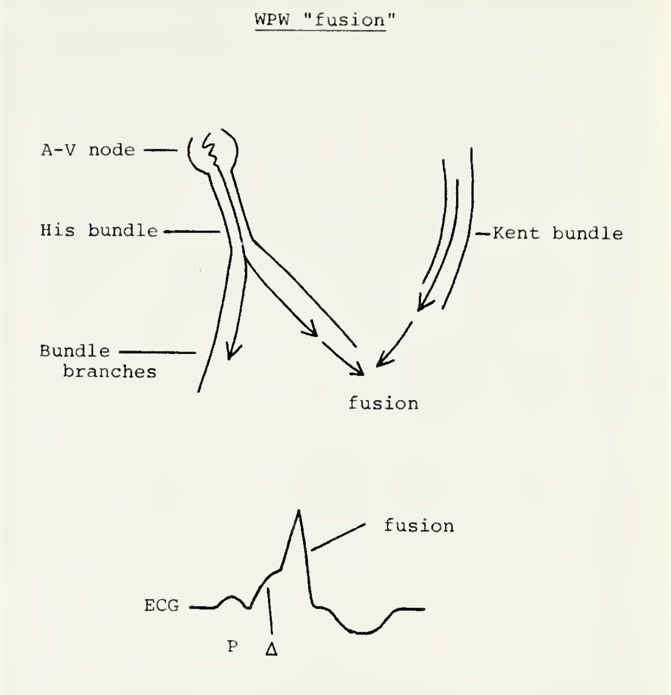

**Figure 1**
**The delta (Δ) wave represents ventricular preexcitation. The balance of the QRS complex on the ECG is a result of fusion of Kent bundle conduction and activation via the normal conduction tissue.**

Recent studies have shown that such bypass tracts do not always exist at discrete loci but often follow highly variable routes around the mitral or tricuspid valve annulus. Such tracts can in fact be multiple.[6] The division of WPW into types A and B is at times, therefore, an oversimplification. Despite these limitations, it is useful to consider these types as an approximation of bypass tract localization.

### Lown-Ganong-Levine Syndrome

The ECG hallmark of LGL is an abbreviated P-R interval and QRS complex of normal duration. (Figure 2). By itself a short P-R interval is nonspecific.[7] Only when associated with the charactisteric tachyarrhythmias can the diagnosis of LGL be considered. Even then such a combination could be produced by enhanced A-V conduction and tachyarrhythmias of an independent mechanism.

### Mahaim Syndrome

In the Mahaim syndrome, bypass fibers from the lower A-V junction or His bundle insert directly into the ventricular myocardium. The more distal ramifications of the His-Purkinje system are thereby bypassed. All impulses pass through the A-V junction preserving the

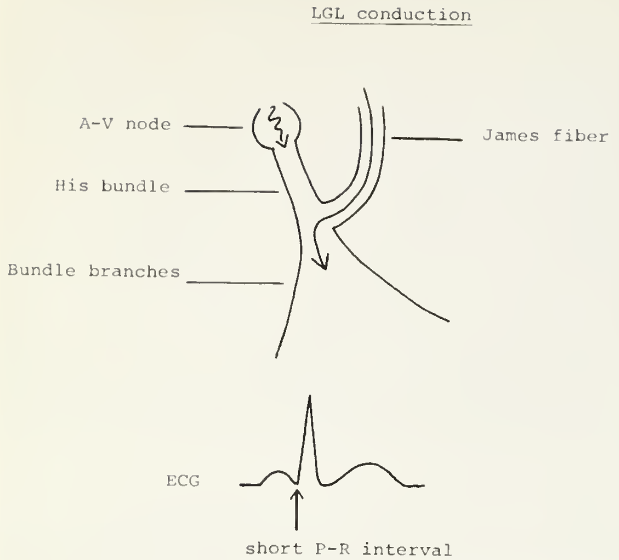

**Figure 2**

**When LGL is operative, the atrial impulse propagates down the James fiber and preexcites the A-V junction. This latter event produces a short P-R interval. The impulse then courses through the usual conduction tissue thereby resulting in a QRS complex of normal duration.**

P-R interval. The QRS complex is, however, slurred by an initial delta wave as in WPW.

### Tachyarrhythmias—Wolff-Parkinson-White Syndrome

The overall incidence of tachyarrhythmias in the WPW Syndrome has been reported to be 40% to 80%.[8] Seventy-five to eighty percent of symptomatic patients sustain regular supraventricular tachycardia of the reentrant variety. Atrial flutter or fibrillation occurs in twenty to twenty-five percent with atrial flutter being quite rare.[8] Bouts of supraventricular tachycardia may be initiated by atrial or ventricular premature beats which find either the A-V node or accessory pathway refractory. Conduction will then proceed via the available pathway allowing the impulse to become dissociated, thus setting the stage for circus movement and reentrant tachycardia. In 90% of such arrhythmias, conduction is antegrade through the A-V node and retrograde through the accessory pathways. During the tachycardia the ventricles are activated exclusively by normal A-V conduction. The QRS morphology is therefore normal except in the presence of aberrant conduction or bundle branch block.

In five to ten percent of symptomatic patients conduction is antegrade rather than retrograde over the accessory pathway. The resultant QRS complexes are widened from the aberrantly conducted beats. Such pathways with a short refractory period are capable of very rapid conduction, often up to 300 or more beats per minute. In the presence of atrial fibrillation or flutter, conduction over such a path with 1:1 ventricular conduction can simulate ventricular tachycardia, flutter or fibrillation although true ventricular fibrillation ca
occasionally occur in this setting and lead to sudde
death.[9]

More recently, it has been recognized that som
accessory pathways are capable of conducting in only
retrograde manner. These patients show no evidence c
preexcitation on the surface electrocardiogram. (Figur
3). In 20% to 30% of patients with paroxysma
supraventricular tachycardia and no ECG evidence c
preexcitation, such an accessory pathway can b
demonstrated in the electrophysiologic laboratory.[10]

### Tachyarrhythmias—Lown-Ganong-Levine

In the LGL syndrome, James fibers connect the atria
myocardium with the inferior margin of the A-V node o
upper His bundle. The James fiber, A-V node, and atria
myocardium form a potential circuit capable o
sustaining reentry. In addition to supraventricula
tachycardia, these patients are also subject to a rapi
ventricular response in the presence of atria
fibrillation.[11]

### Tachyarrhythmias - Mahaim

There are very few reports of patients with th
expected ECG and electrophysiologic findings o
functioning Mahaim fibers. Patients with functiona
nodoventricular fibers manifest a left bundle branch
morphology and appear capable of sustaining a
reentrant tachycardia. A possible reentry circui
includes the nodoventricular fiber, His-Purkinje system
and a portion of the atrioventricular node
Fasciculoventricular fibers can mimic intraventricula
conduction defects. Their participation in arrhythmias
however, has not been documented.[12]

### Treatment

### Medical Therapy

Rational medical therapy of the tachyarrhythmias associated with the preexcitation syndrome requires a general knowledge of the mechanisms responsible, as well as the effect of various agents on the effective refractory period of the A-V node and accessory pathway. The Table indicates the influence of medication on these anomalous bundles.[13-16]

In general, tachyarrhythmias associated with the preexcitation syndromes can be controlled by agents that either prolong the effective refractory period of the A-V node or accessory pathway or reduce the number of premature beats.

In the usual case of reciprocating tachycardia simple vagal maneuvers which prolong the effective refractory period of the A-V node may be effective. Intravenous propranolol or procainamide may be tried. Intravenous verapamil is especially effective. In refractory cases, overdrive atrial pacing or cardioversion can be utilized.

In patients with accessory pathways capable of rapid antegrade conduction, atrial fibrillation or flutter is particularly dangerous as 1:1 ventricular conduction may occur. With cardiovascular compromise, cardioversion is the treatment of choice. Intravenous procainamide is the medical agent of choice, whereas

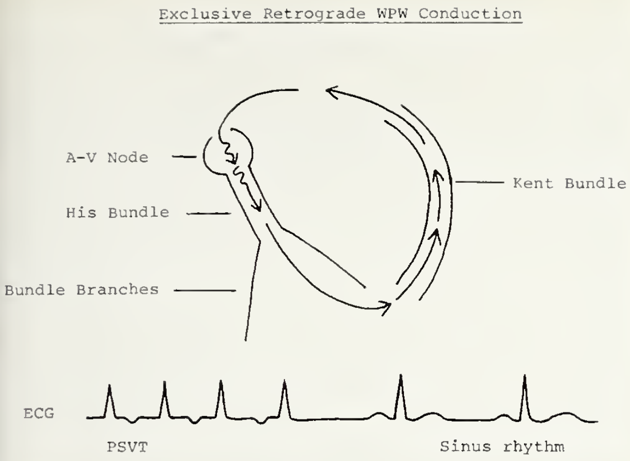

**Figure 3**
**Schematic representation of paroxysmal supraventricular tachycardia (PSVT) due to exclusive retrograde conduction through Kent bundle and antegrade conduction via normal pathway. Note normal appearance of ECG during sinus rhythm. QRS complexes during PSVT are of normal duration.**

**Table**
**Influence of Drugs on Bypass Tract Refractory Periods**

| | Effective Refractory Period | |
|---|---|---|
| | A-V Node | Accessory Pathway |
| Digitalis | + | — |
| Pronestyl | 0 | + |
| Quinidine | ± | + |
| Propranolol | + | 0 |
| Verapamil | + | ± |
| Lidocaine | 0 | ± |

+ = increased refractory period, - = decreased refractory period, and ± = variable, 0 = no effect.

the response to lidocaine is variable. Propranolol has no effect on the accessory pathway and is not effective in this setting. Digitalis, while increasing the effective refractory period of the A-V node, may actually decrease the effective refractory period of the accessory pathway and thereby increase the ventricular response during atrial fibrillation.[17] Propranolol, digitalis or verapamil are effective chronic maintenance agents for recurrent paroxysmal supraventricular tachycardia. In patients with atrial fibrillation or flutter, who conduct through the bypass tract, quinidine alone or in combination with propranolol represent the chronic therapies of choice.

The use of digitalis in the setting of preexcitation deserves special mention. In the usual patient with a narrow QRS tachycardia, it is effective both in the acute situation and as maintenance therapy. In the presence of atrial fibrillation or flutter with an accessory pathway capable of rapid antegrade conduction, it is contraindicated. Unfortunately, it is not always possible to identify with certainty which patients have a pathway capable of such rapid conduction. A rapid ventricular response could result in a widened QRS complex due to the usual type of rapid rate aberration or ventricular preexcitation. If the QRS is of normal width during the atrial fibrillation, the patient is probably not conducting through the bypass tract and digitalis therapy is useful.

### Surgical Therapy

For selected subjects, surgical interruption of Kent bundles can now be offered as an alternate form of therapy. Patients to be considered include those with recurrent supraventricular tachycardia refractory to medical therapy and those with life-threatening ventricular arrhythmias. This procedure should be considered in younger patients who will require long term drug therapy and in those with associated cardiac disease where the tachyarrhythmias are poorly tolerated.

Prior to surgical intervention, electrophysiologic studies are required to determine the conduction characteristics of the Kent pathways and their general location. Precise localization is accomplished by intraoperative epicardial mapping. Electrodes with both pacing and recording capabilities are affixed to the involved atrium and ventricle. By systematically mapping the earliest area of activation in both the atrium and ventricle, the Kent bundle insertions are located. With the exception of occasional superficial pathways, open heart surgery is required. Direct division or cryosurgical ablation have been applied with impressive results.[18]

### Pacemakers

The paroxysmal supraventricular tachycardia encountered in WPW is the prototype of the reentrant tachyarrhythmias. By temporary or permanently implanted devices, single or trains of low-energy discharges can be delivered directly to the myocardium. Such artificial stimuli, when appropriately timed, find some portion of the reentry loop excitable rendering it refractory to the subsequent wave of depolarization. Permanently placed devices can be activated either by the patient or by an internal ECG sensing mechanism.[19]

### Conclusion

A basic understanding of ventricular preexcitation is required of all physicians involved in patient care. The electrocardiogram is frequently misinterpreted as myocardial infarction or bundle branch block, yet most patients are asymptomatic. When present, symptoms range from occasional palpitations to life threatening tachyarrhythmias. The results of improper medical management can be disastrous. Effective medical therapy is available for most patients. When skilled drug therapy cannot control WPW arrhythmias, a pacemaker or surgery can be offered for appropriately selected subjects.

### Acknowledgements

We wish to acknowledge the technical assistance of Carole Crevier, Jennie Goff and Mary Throop.

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## Errata

In the October 1982 issue of *Arizona Medicine* page 636 an error was made in the article *A Case for Hospital Discharge Within 24-48 Hours After Transvenous Pacemaker Implantation (Ventricular and Atrioventricular Mode)* by Albert F. Olivier, M.D. On page 636 , under Materials and Methods the fourth sentence of the second paragraph should have read, "Only tined leads of unipolar or bipolar type were used with the pacemaker in the ventricular mode (15 patients) or atrioventricular mode (4 patients)."

## Seminars in Dermatology

# Selective Allergy to Systemic and Topical Corticosteroids

Gerald A. Rosenblum, M.D.

Editors:
Ronald C. Hansen, M.D.
Robert A. Schwartz, M.D.

## Abstract

This is a case report of a patient with a suspecte selective allergy to oral prednisone, intramuscula methylprednisolone, and topical amcinonide. She wa allergic to topical fluocinonide.

## Introduction

Corticosteroids are frequently used to treat allergic o inflammatory disease. If the condition worsens wit treatment, the physician should consider the possibilit of allergy to the corticosteroids. This is the case report o a patient with eczema who worsened with systemic an topical steroids.

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## ase Report

A 49-year-old female had had recurrent hand and foot ruptions for several years. As a child she had frequent kin rashes. She had a vesicular patch on the left forearm eginning about July 1, 1981. Application of amcinonide ream to that patch caused induration and enlargement f the eruption. Subsequent treatment included ydrocortisone one-half percent cream, oral diphenydramine, prednisone 40 mg p.o. daily, and ethylprednisolone 40 mg im. The rash then became eneralized. She was referred to my office at this time.

On July 20, 1981, examination revealed well-emarcated large plaques and scaly patches of erythema n the arms, thighs, eyelids, neck, and upper chest. here was edema of the left arm. Skin biopsy from the ght arm showed subacute dermatitis. Treatment was itiated with prednisone 80 mg p.o. a AM, hydroxyzine 5 mg p.o. q.i.d., and fluocinonide ointment. xamination three days later revealed a new flat orbilliform erythema on the trunk and limbs. The revious plaques and scaly patches of dermatitis were atter and less erythematous.

At this point, prednisone was abruptly discontinued at y behest. Hydroxyzine and fluocinonide ointment ere continued. Within 48 hours, the patient developed arkedly less pruritus and erythema. Within five days e eruption had completely disappeared. The patient efused a trial dose of prednisone or methylrednisolone to test for allergy. She has been able to use uocinonide ointment topically since then without any lergic reactions.

## iscussion

There have been several reported cases of urticaria d bronchospasm with the use of corticosteroids. omaish[1] described a patient with skin eruptions after oth intra-articular and oral administration of rticosteroids. Skin tests with highly purified steroid mpounds (hydrocortisone, prednisone, prednilone) were positive. In vitro tests for circulating and ell-bound steroid-specific antibody were negative. 'Garra[2] described three patients with a purpuric or rticarial rash and anaphylaxis following injection of ydrocortisone acetate suspension. It is interesting that this series of 4000 injections, only three patients had vere reactions. Two of these patients had positive skin sts using a pure suspension. King[3] described a patient ith urticaria, purpura, and anaphylaxis following an tra-articular injection of "hydrocortisyl." The skin test as positive. Forssman and Mulder,[4] Glassetal,[5] and atriarca[6] have described patients with anaphylaxis and rticaria following injection of human and synthetic rticotrophin (ACTH).

Mendelson et al.[7] reported a patient with urticaria, gioedema and bronchospasm following intravenous ethylprednisolone sodium succinate and hydrortisone sodium succinate. Direct skin tests were sitive for pure methylprednisolone and hydrortisone. They were negative for the sodium succinate derivatives, prednisone, prednisolone, triamcinolone, and dexamethasone. Oral challenge was positive with methylprednisolone but negative with prednisolone and prednisone.

It would seem that steroid hypersensitivity is an entity which ought to be considered in certain patients who develop unusual skin reactions during the course of steroid treatment. In this case report, a drug rash was superimposed upon atopic dermatitis. The incriminated agents were oral prednisone and intramuscular methyprednisolone. From the literature review, it is evident that an allergy can be specific for several steroid derivatives. For this reason, topical fluocinonide was well tolerated. Topical amcinonide, however, aggravated the dermatitis. This patient therefore, suggested a selective allergy to several corticosteroid derivatives, both topical and systemic.

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*Gastroenterology &
Liver Disease*

# Erythrocyte Morphology in Liver Disease

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**Abstract**

Erythrocyte morphology in liver disease is often abnormal, with variable shapes and sizes being seen. The morphologic changes are commonly attributed to deficiencies in iron and folate. However, the most common abnormality of erythrocyte morphology is macrocytosis in the absence of folate and vitamin $B_{12}$ deficiency, or a picture of macrocytosis and microcytosis, if chronic gastrointestinal blood loss is also present. The most common contributing factors accounting for abnormal erythrocyte morphology include abnormal lipoprotein metabolism, toxic effect of alcohol, hypersplenism, folate and iron deficiency. On rare occasions immune hemolysis and vitamin $B_{12}$ deficiency have been reported. In most cases, examination of the peripheral blood smear provides the clinician with sufficient information to determine the significance of the abnormal red cell indices, thus avoiding expensive and unnecessary laboratory testing to determine if folate or vitamin $B_{12}$ deficiencies are present.

Key Words: Liver Disease, Macrocytes, Target Cells, Acanthocytes, Stomatocytes, Spherocytes and Microcytes.

**Table**
**Red Blood Cell Shapes in Liver Disease**

1. Macrocytosis
   a. Oval
   b. Round
2. Target Cells
3. Acanthocytes
4. Stomatocytes
5. Spherocytes
6. Microcytes

### Introduction

Anemia is a common complication of acute a chronic liver disease. Most commonly, anemia multifactorial; that is, secondary to acute or chron blood loss, dietary folic acid deficiency, iron deficienc and/or a direct suppression of the bone marrow by toxin. In addition, decreased erythrocyte survival due hypersplenism, immune hemolysis, or hemolyt anemia associated with altered lipoprotein metabolis may be causative factors of anemia in patients wi hepatocellular disease.

The initial diagnostic step in the evaluation of anem is careful examination of the peripheral blood fil Changes in red blood cell shape may be helpful determining the cause of anemia. This article will foc on alterations in erythrocyte morphology that m occur in liver disease. (Table).

### Macrocytosis

Macrocytic red cells on peripheral blood smears are common finding in patients with liver diseas Macrocytes are red cells with an increased red ce diameter; they may be round or oval, thick or thin.[1,2] Th etiology of macrocytosis in liver disease can be due combined causes[3] which include: 1) the macrocytes megaloblastic anemia, 2) reticulocytosis in response gastrointestinal bleeding, hemolysis, or ethan withdrawal, 3) macrocytosis of liver disease, and 4) th "macrocytosis of alcoholism."

Macroovalocytosis (Figure 1) is pathognomonic megaloblastic erythropoiesis usually due to fola deficiency in malnourished alcoholics, but may also b associated with Vitamin $B_{12}$ deficiency. Howeve magaloblastic changes have been described alcoholics with normal serum and red cell folate levels Thus, ovalomacrocytes are not necessarily diagnostic folate deficiency in patients with hepatocellul dysfunction.

Round macrocytes are also frequently observed peripheral blood smears of many patients with cirrhos and other forms of liver disease. These cel characteristically have an increased surface membran area and show an increased resistance to osmotic lysis The excess membrane in this cell type has been shown be due to an increased amount of cholesterol an phospholipid on the red blood cell membrane.[5,6]

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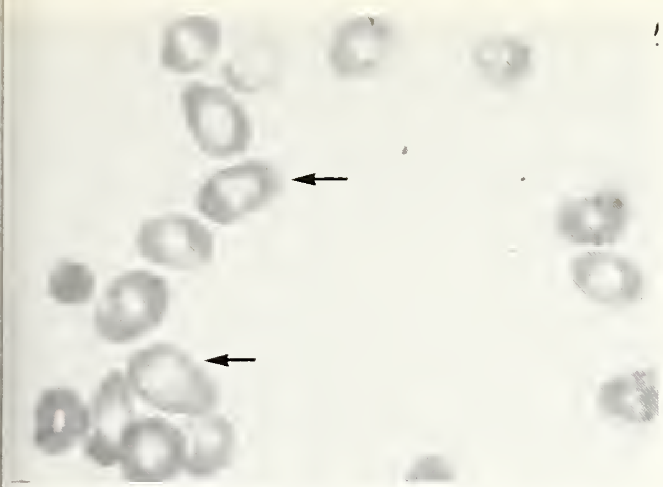

Figure 1
rrows denote Macroovalocytes. Original magnification 1000).

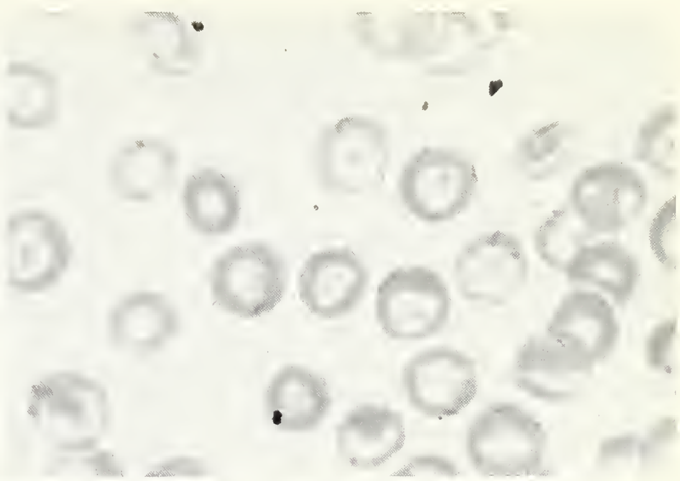

Figure 2
Multiple Target Cells in central field resembling "Mexican hats." Original magnification (X1000).

In addition, macrocytosis may be secondary to lcoholism itself. This phenomenon, first described by Vu and colleagues in 1974, has been referred to as macrocytosis of alcoholism."[7] The typical clinical haracteristics of this condition are a mild macrocytosis 100-110 fl), slight or absent anemia, and a peripheral lood film showing round macrocytes. There is no vidence of folate deficiency, and the macrocytosis haracteristically persists unless the patient abstains om alcohol. Although a direct effect of alcohol on the rythrocyte stem cell may be responsible for the acrocytosis, the pathogenesis of this cell type is still nknown.

### arget Cells

Like macrocytes, target cells are frequently found on e peripheral blood smear of patients with various rms of liver disease, including viral and alcoholic epatitis, cirrhosis, and obstructive jaundice. Target cells re bell-shaped red cells that have been described as Mexican hats" on dried blood films. (Figure 2) Similar the macrocytes of liver disease, target cells have an creased surface area to volume ratio and an increased esistance to osmotic lysis. The targeted appearance of e red cells is due to the acquisition of excess holesterol and lecithin from plasma lipoproteins in the ed cell membrane.[8] It has been suggested that an bnormality of bile acid metabolism, the presence of poprotein-X, or a deficiency of lecithin cholesterol acyl ansferase (LCAT) may be contributory factors in the athogenesis of this cell type.[9,10] Of particular interest is e fact that target cells have been observed in patients ith a congenital absence of LCAT in the absence of liver isease.[11]

### canthocytes

Unlike the aforementioned abnormalities of red cell hape, acanthocytosis on a blood smear is found in a minority of patients with liver disease. Significant canthocytes should suggest the diagnosis of spur-cell nemia, and acquired hemolytic anemia originally reported by Smith et al. in 1974.[12] The majority of patients with this entity have evidence of severe hepatocellular dysfunction, usually alcoholic cirrhosis.[13,14] However, spur-cell anemia has been described in cardiac cirrhosis, acute yellow atrophy secondary to viral hepatitis, neonatal hepatitis, and Wilson's disease.

Acanthocytes, commonly referred to as spur cells, are the characteristic feature of this anemia. Typically, spur cells are red blood cells which have lost their discoid shape and have two to twenty spicules of varying length and thickness irregularly distributed over the red cell surface. (Figure 3A and 3B). The membrane changes are due to disproportionate amounts of lecithin in the phosphlipid, and markedly increased cholesterol levels ranging from 25% to 65%.[13] Although spur-cell anemia is uncommon, the diagnosis can be established by exam of the peripheral blood smear. The diagnosis of spur-cell anemia portends a poor prognosis, with the majority of patients dying from complications associated with liver failure within one year. Splenectomy will correct the hemolytic disorder, but the short-term benefit of such high-risk intervention would rarely be indicated in patients with severe liver disease. For a more detailed discussion of acanthocytes and spur-cell anemia, the interested reader is referred to recent reviews.[13,14]

### Stomatocytes

Stomatocytes (Figure 4) are red cells with a longitudinal mouth-like unstained area in contrast to the normal central circular depression of the bi-concave disc. In 1970, Douglass and Twomey described transient hemolysis and stomatocytosis associated with acute alcoholism; liver biopsy performed on three patients showed fatty metamorphosis and, in two patients, early fibrosis.[15] The authors noted no relationship between the percentage of stomatocytes and hemolysis. It is noteworthy that neither red cell cation nor red cell membrane lipid studies were performed. In this regard, it has been reported that an elevated membrane lipid

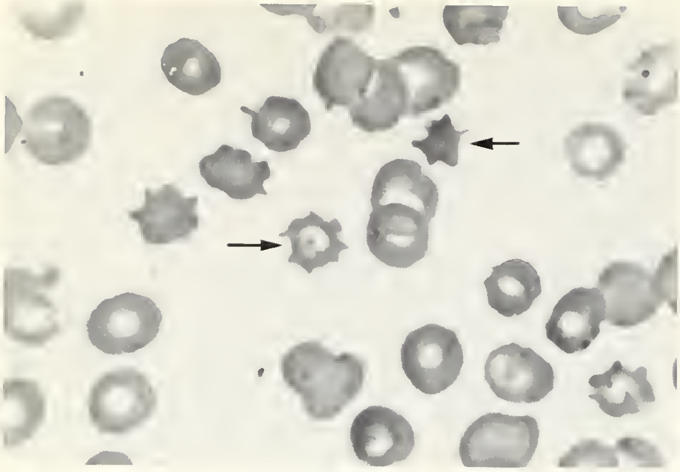

Figure 3A
Acanthocytes (Spur Cells) with characteristic membrane projections. Original magnification (X1000).

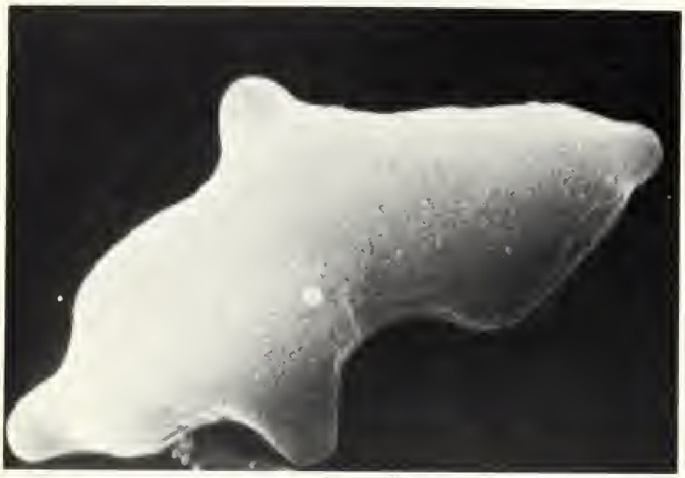

Figure 3B
Scanning micrograph of Acanthocyte (Spur Cell). Original magnification (X10,000).

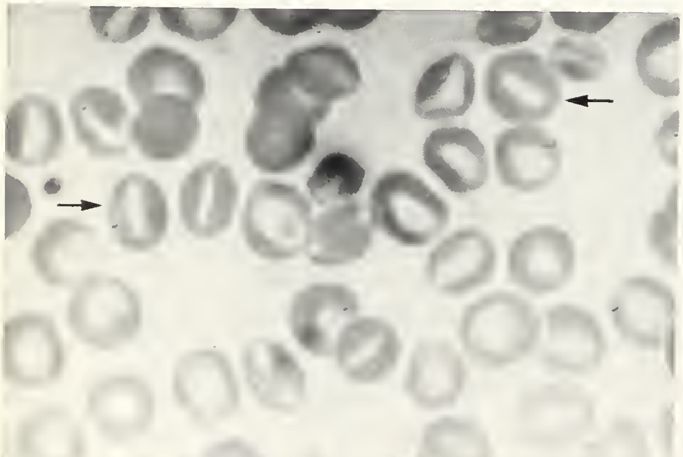

Figure 4
Arrows depict Stomatocytes. Original magnification (X1000).

content as well as abnormalities in red cell cations present in the hereditary stomatocytosis syndrom Although alcoholism is often quoted as being associat with stomatocytosis, the authors feel that furt documentation of this correlation is warrant Furthermore, red cell cation and membrane li analysis should be performed in future investigatio

### Spherocytes

Not uncommonly, a small population of spherocyte seen in the peripheral smear of patients with li disease. Usually these patients have evidence cirrhosis, portal hypertension, splenomegaly, and m anemia.[17] Spherocytes are the opposite of target cells that the spherocyte has a decrease of surface area unit volume, and decreased resistance to osmotic ly When red cells from hereditary spherocytosis exposed to the plasma environment created by liv disease, a transformation to the target cell shape been reported.[18] Although splenic over-activity per may be cause for the spherocytosis, other factors may involved in their pathogenesis.[19]

If spherocytosis is a predominant finding on t peripheral blood film, then a diagnosis of immu hemolytic anemia should be entertained. Coomb positive hemolytic anemia has occasionally bee described in liver disease, including acute viral hepatit chronic active hepatitis, and biliary cirrhosis.[20,21] Furthe hemolytic anemia may be the presenting manifestati of Wilson's disease.[22] Thus, underlying liver disea should be considered in the differential diagnosis hemolytic anemia.

### Microcytosis

An additional abnormality of the red blood cell that prevalent in patients with liver disease is microcyti hypochromic cells, caused by iron deficiency fro gastrointestional blood loss. However, hypochromi microcytic red cells also occur in sideroblastic anemia, common complication of alcoholic patients particular with accompanying folate deficiency and malnutrition. In sideroblastic anemia dimorphism of circulatin erythrocytes is usually observed. Also, the periphera blood reveals the presence of siderocytes on Prussia blue stain. Although the exact pathogenesis underlyin sideroblastic changes from alcohol have not been full elucidated, it has been suggested that alcohol interfere with heme synthesis through its effect on pyridoxin metabolism.[24]

### Summary

Multiple changes of erythrocyte morphology may b observed in the peripheral blood smear of patients wit liver disease. Because macrocytosis is common in live disease, serum and red cell folate levels, and serum Vitamin $B_{12}$ should be obtained only in those patient with morphological evidence of vitamin depletion, i.e. macroovalocytes and hypersegmented polymorphonuclear leukocytes. The pathogenesis of round macrocytes, target cells, and acanthocytes may be related to an abnormality of lipoprotein metabolism ociated with liver disease. Hypersplenism, iron iciency, and abnormal heme synthesis are additional isative factors of changes in red cell shape. Because inges in erythrocyte morphology are common in liver ease, clinicians should examine the peripheral blood before ordering unnecessary laboratory tests.

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AM *Medical Genetics*

# Malpractice and Women 35 Years of Age or More at Delivery

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### Abstract

The effect of the mother's age on the risk of a Down syndrome birth has been well established, as has been the chromosomal basis of Down syndrome. The history of the knowledge of the maternal age effect in Down syndrome and trisomy 21 as the cause of this condition is traced.

The safety and accuracy of midtrimester amniocentesis were determined by the National Institute of Child Health and Human Development in 1976. Good medical practice now dictates that all women 35 years of age or more at delivery should be provided with genetic counseling and be offered prenatal diagnosis. Malpractice suits can be avoided by observing this practice.

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## Introduction

The maternal age effect—the importance of the mother's age—in Down syndrome (mongolism) has long been known.

In 1909 Shuttleworth[1] reported a remarkable study of 350 cases with "mongolian imbecility." He underlined the advanced age of the mothers in many of the cases. However, because the Down syndrome children were oftimes the last born to their family, Shuttleworth was uncertain whether the key factor was the mother's age or her exhaustion after a long series of pregnancies.

In 1933 Penrose[2] analyzed the ages of the father and mother in Down syndrome. He determined that the predominant factor was the age of the mother. A study by Jenkins,[3] also in 1933, came to the same conclusion.

In 1934 Penrose[4] published on the matter of birth order, finding that birth order was not an independent variable. The key factor was the mother's age.

For nearly half a century it has thus been clear that the incidence of Down syndrome rises with the age of the woman.

## The Cause of Down Syndrome

It was first suggested by the ophthalmologist Waardenburg[5] in 1932 that Down syndrome might be due to a chromosome abnormality. Analogous suggestions were made by Bleyer[6] in 1934 and by Penrose[7] in 1939.

The idea was that Down syndrome might result from chromosome imbalance. This imbalance might, in turn, be due to nondisjunction: an error in chromosome distribution.

Using a second-hand microscope, the French pediatrician Lejeune began studying chromosomes from children with Down syndrome soon after the discovery of contemporary methods for chromosome analysis and in 1959 Lejeune and colleagues[8] reported findings in nine children afflicted with Down syndrome. They had an extra chromosome: trisomy 21.

For nearly a quarter century it has thus been known that Down syndrome children have trisomy 21 (or chromosome variations on this theme).

## Safety and Accuracy of Midtrimester Amniocentesis

In 1967 it was reported that one could utilize amniotic fluid cells obtained via midtrimester amniocentesis for the prenatal diagnosis of chromosome disorders.[9] Therefore, it became possible to determine during pregnancy if trisomy 21 were present.

The same technique—midtrimester amniocentesis—can be employed to establish the antenatal diagnosis of a multitude of genetic disorders. These include chromosome abnormalities, metabolic diseases and other pediatric disorders of prenatal origin.

The National Institute of Child Health and Human Development (NICHD) in 1971 initiated the NICHD National Registry for Amniocentesis. A cooperative study was designed to assess the risks of midtrimester amniocentesis. This study involved nine institutions in Chicago, Boston, Baltimore, New York, Los Angeles, San Diego, Ann Arbor, Philadelphia and New Ha Prospectively, 1,040 women having midtrime amniocentesis were studied, as were 992 controls. children from these pregnancies were examined at b and again at one year of age.

The NICHD study was reported[10] in 1976. There wa significant difference in death in utero, spontane abortion or stillbirth. The overall fetal loss rates w adjusted for age. These rates were 3.3% for the cases 3.4% for the controls, indicating no appreciable incre in spontaneous abortion rates. No signific differences were found among the children at birtl one year of age.

The NICHD study[10] also scrutinized the accurac the procedure and concluded that "midtrime amniocentesis is a highly accurate and safe proced that does not significantly increase the risk of fetal los injury."

"Given the increased incidence of Down syndrc births to women after age 35 years and the safet amniocentesis," the NICHD study group comment "good medical practice would dictate that all won after the age of 35 years should be offered the optio this procedure."

## Increasing Utilization of Prenatal Diagnosis

Prior to the NICHD report, Milunsky[11] found tha Massachusetts only 4.1% of pregnant women more t 35 years of age had amniocentesis in 1974. Since NICHD report, utilization has increased in the Uni States.

Utilization in 1977 and 1978 of prenatal gen diagnosis was studied in Alabama, California, Nebra and New York (Manhattan).[12] The rates of utilizatio these areas increased from 1977 to 1978 over this o year period by women age 35 or more years. It was fou that utilization rates were higher among urban t rural women and higher among white than bl women. Thus, as expected, access to the procedure n be an important factor in its utilization.

## Malpractice and Recommendations

Good medical practice today would dictate that women who will be 35 years of age or more at delive should be offered prenatal diagnosis. This means t the woman should be provided with genetic counseli The counseling can be provided by the obstetrician family physician caring for the woman or by referral t genetic counseling center. Further, the gene counseling should be informative, nondirective a noncoercive and meet contemporary standards good practice.

In cases in the United States, malpractice suits broug by women 35 years of age or more at delivery have be won by the women against their physicians who failed provide genetic counseling and failed to offer prena diagnosis. These cases include Becker versus Schwa and Karlson versus Guerinot.[13] To date, no such case h to our knowledge, been filed in Arizona.

There are other indications to provide gene ınseling and offer prenatal diagnosis. These ications include a family history of Down syndrome ınother chromosome abnormality, a parent with a omosome abnormality, a metabolic disease, a severe nked disorder and a family history of neural tube ects or other disorders which may be detected enatally such as thalassemia, sickle cell disease, or -Sachs disease. Malpractice cases testing certain of se situations have been brought in other states and ıerally have been won by the parents, as will be cussed in a future article in this series.

now is clear that the provision of genetic counseling l offering of prenatal diagnosis are part of the ıdard of good medical practice when caring for gnant women who will be age 35 years or more at ivery.

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*Oncology*

# The Problem of the Unknown Primary Carcinoma

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Metastatic carcinomas from an unknown primary site represent a challenging problem with regard to both diagnostic evaluation and treatment. Approximately three percent to four percent of all patients with metastatic carcinoma do not have a readily identifiable primary site and in series from large centers this number may exceed ten percent of all referred patients with cancer. Physicians encountering such patients must ask themselves several pertinent questions including: How aggressive should I be in searching for the primary site? Will the knowledge of the primary site influence treatment or prognosis? What treatment if any is indicated if the primary remains undetected?

Certainly there are valid reasons for a selective attempt at defining the primary site. Squamous cell carcinoma metastatic to cervical nodes is usually associated with a primary site in the head and neck region and may be curable. Knowledge of the primary site may lead to better directed chemotherapy or hormonal manipulation and help in assessing prognosis. Finally it may aid us in anticipating future problems (e.g., bowel obstruction from colonic carcinoma).

There is no characteristic presentation for metastatic carcinoma from an unknown primary site. The frequency of the predominant presenting site(s) varies from series to series; however, pulmonary (including

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pleura), bone, and cervical node metastases are usually at or near the top of the list followed by hepatic involvement.[1,2] Less common sites include axillary and inguinal adenopathy, brain, skin, and soft tissue metastases, abdominal masses, and ascites.

Prior to the use of computed tomography, the search for the primary site was in most cases a frustrating and frequently costly experience. Most of the time the primary remained undetected, not uncommonly even after postmortem examination.

Why is it so difficult to find the primary? There are several explanations including: 1) it is too small to be detected with our standard clinical studies; 2) it may be located in an occult site (e.g., retroperitoneum); and 3) the primary may have spontaneously regressed.

Before initiating the search for the occult primary site in patients with undifferentiated and adenocarcinomas, the principal histologic types, it is important to keep in mind which disseminated tumors can be effectively treated with systemic therapy. The known curability of generalized Hodgkin's disease and non-Hodgkin's lymphoma, particularly histiocytic lymphoma, makes it critical that this diagnosis be ruled out promptly in cases with undifferentiated histologies. Germ cell tumors (both gonadal and extragonadal) and trophoblastic tumors are curable with chemotherapy. Breast, prostate, and endometrial carcinomas frequently respond for a long period of time to nontoxic hormonal therapy. We must recognize that highly effective chemotherapy is available for breast, ovarian, and small cell lung carcinomas. Finally, disseminated thyroid carcinomas often respond for prolonged periods of time to radioactive iodine.

## Pathological Examination

Careful pathological examination of the metastatic lesion is crucial to the proper evaluation of patients with unknown primary carcinomas. This examination should be performed by experienced pathologists who have the latest techniques in histochemical and immunohistologic staining available in addition to electron microscopy. It is imperative that adequate material be provided and if this is in question, a second biopsy may be necessary.

The majority of unknown primary carcinomas are initially classified as undifferentiated or adenocarcinomas. Squamous cell carcinomas, which constitute about ten percent of the total, usually present as cervical nodes and represent a distinct clinical entity with a specific diagnostic approach and management which will be discussed separately.

The standard histochemical stains (e.g., PAS, mucicarmine) may be helpful in reducing the number of potential primary sites for metastatic adenocarcinoma. In female patients, an estrogen receptor assay should be performed on all biopsied material. The value of this assay was demonstrated in a study of 295 tumor tissues of various origins including 19 patients with metastases from an unknown primary.[3] Estrogen receptor of the 8S type was found only in adenocarcinoma of the bre
uterus, and ovary. Four of the patients with an unknc
primary benefited from this assay because of
institution of appropriate therapy.[3]

Electron microscopy may be an extremely valua
technique in evaluating undifferentiated carcinon
Small cell undifferentiated lung carcinoma may
identified by the presence of neurosecretory granu
squamous cell carcinomas by desmosomes,
melanomas by melanosomes, to cite a few examp
The use of immunohistologic staining techniques
greatly aided in excluding lymphomas from the gr
classified as undifferentiated carcinomas. The majo
of lymphomas are of B cell origin and frequently con
intracytoplasmic immunoglobulins which stain with
appropriate immunoperoxide reagents that are wi
available.

Immunoperoxidase stains for the beta chain of H
and alpha-fetoprotein are also available and have b
shown to be an asset in diagnosing extragonadal ge
cell tumors, a highly treatable and frequently cura
malignancy even when widely disseminate
Numerous other immunohistologic staining meth
have been developed which may aid in detect
primary sites. In the future we should see an increa
role for monoclonal antibodies in this area.

## Diagnostic Evaluation

The diagnostic search begins with a thorough physi
examination including careful palpation of the thyro
breasts, and prostate, and a pelvic examination.
addition to the usual laboratory studies which includ
stool for occult blood, complete blood cell count (CB
urinalysis, serum calcium, and liver function tests
serum acid phosphatase level should be obtained in
men. To exclude germ cell tumors, serum assays for t
beta subunit of human chorionic gonadotropin (HC
and alpha-fetoprotein should be requested if t
histologic appearance is undifferentiated.

In patients presenting with metastatic carcinoma
axillary nodes only, a careful search should
undertaken for a primary in the ipsilateral breast, lun
or a small melanoma (if undifferentiated histology)
the arm or trunk. In women with metastatic tumor
inguinal nodes, it is critical to rule out a primary in t
cervix, uterus, or ovary. In men with this presentati
prostatic carcinoma must be considered, and in bo
sexes, carcinoma of the anus and rectum and melano
must be searched for.

## Radiographic and Imaging Studies

Nystrom et al.[5] have clearly demonstrated the inabil
of contrast and noncontrast x-rays to locate the prim
site in patients presenting with metastatic nonsquamo
carcinomas of unknown origin. Upper and low
gastrointestinal series, intravenous pyelograms, a
chest x-rays were performed in their series, whi
included a total of 266 patients. In spite of this extensi
diagnostic evaluation, they were able to verify t

mary site in only 22 of the 136 patients who did not /e a postmortem examination. In the remaining 130 ients who had an autopsy, 25 were found to have had alse positive x-ray study for the primary site. In dition, chest x-rays thought to be characteristic for mary lung cancer were frequently found (43%) to oresent metastatic lesions. Considering the low yield, h false positive rate, cost, and discomfort, these hors recommended that contrast x-ray studies in ients with unknown primary carcinomas be limited to es with specific organ dysfunction (e.g., hematuria, cult blood in stool). I heartily endorse this commendation.

The study by Osteen et al.[6] reinforces the futility of rforming x-ray contrast studies in patients without propriate symptoms. These authors also found that rasonic scans were often misleading. Stewart et al.[7] cated the primary site in only 8 of 87 patients with nsurgical investigations. Furthermore, in their patient pulation, identification of the site did not affect inagement or survival and they warned against over vestigation.

As is to be expected, computed tomographic (CT) dy scanning has been employed in the search for the mary site in patients with unknown primary differentiated and adenocarcinomas. The preliminary sults indicate that this is a very useful study. Employing dominal CT scanning, McMillan et al.[8] located the imary site in 16 of 46 patients (34.8%). In their perience, CT was superior to sonography. These sults were confirmed by Karsell et al.[9] who were able find a clinically occult tumor in 31 of 98 patients with body scanning, with a false positive rate of only six rcent.

This technique appears to be far superior to contrast x-y studies and has improved the chances of finding the imary site from 8.3% to over 30%. The abdominal CT an is now the next recommended study after chest x-y in the diagnostic evaluation of an occult primary site. this scan is unrevealing, a pelvic sonogram or pelvic CT ould be obtained in women. Contrast x-rays should be rformed only in patients with signs or symptoms of ecific organ dysfunction.

In both Karsell's and McMillan's studies[8,9] the most mmon proven primary site with CT scanning was the ncreas, accounting for 17 of the 52 primary locations. his is similar to the results in Nystrom's study [5] in which e pancreas was the most frequent subdiaphragmatic e and equaled the lung for the most common occult cation. Pancreatic carcinoma, although not a common alignancy, appears to be the most common primary e in patients with occult primaries.

The recommended studies in the evaluation of atients with an unknown primary undifferentiated or denocarcinoma are listed in the Table.

*Cervical Nodes:* This site of metastasis has a specific oproach largely dependent upon the location of the volved cervical nodes. Over 70% of patients whose involved node(s) are located in the high or midneck will have squamous cell carcinoma metastatic from a primary somewhere in the head and neck area. Common occult sites include the nasopharynx, tonsil, and base of the tongue. When the nodes are in the low neck, the primary is usually below the clavicle and is frequently an adenocarcinoma. Possible primary sites in this circumstance include lung, gastrointestinal tract, pancreas, breast, and prostate.

**Table**
**Recommended Studies in the Evaluation of Patients with Unknown Primary Undifferentiated or Adenocarcinoma**

**Pathological Examination**
Obtain estrogen and progesterone receptor assays on biopsies from women
Employ electron microscopy and histochemical and immunohistologic stains

**Physical Examination**
Careful palpation of thyroid, breasts, and prostate and pelvic examination

**Laboratory Studies**
Stool for occult blood, CBC, urinalysis, serum calcium, and liver function tests
Serum acid phosphatase (men)
Beta HCG and alpha-fetoprotein (undifferentiated carcinoma)

**Radiographic and Imaging Studies**
Chest x-ray
Abdominal CT scan
Mammography and pelvic ultrasound (women)
Contrast x-rays only if organ dysfunction present

It is often stressed that cervical nodes should not be biopsied until a search for the primary has been completed. Many of these patients will eventually undergo a neck dissection and premature biopsy has been demonstrated to increase the incidence of wound necrosis.[10] An increased incidence of regional neck recurrence, as well as distant metastases, has also been reported with early biopsy.[10] Thus, the recommended approach, if physical examination including indirect examination of the nasopharynx, hypopharynx, and larynx is unrevealing, is to perform direct laryngoscopy and nasopharyngoscopy with biopsies of all suspicious areas. If a lesion is not found and if the node is high in the neck, blind (random) biopsies of the tonsil and nasopharynx on the affected side, as well as the base of the tongue, should be obtained. If the primary tumor is still not uncovered, then a node biopsy is indicated and, if positive for squamous cell carcinoma, a radical neck dissection is usually performed. If the node contains adenocarcinoma, a radical neck dissection is not indicated and a limited search to find a primary site below the clavicle is recommended.

## Treatment

In considering treatment of patients with metastatic undifferentiated and adenocarcinomas whose primary site of disease remains undetected after a diagnostic evaluation which includes CT scanning, we should try to find treatable primaries and use empiric chemotherapy or symptomatic treatment for the rest. One of the most treatable disseminated tumors is the extragonadal germ cell tumor, an entity previously underdiagnosed and, hence, undertreated. Typically, patients with these tumors are men in the 20 to 50 year age range whose tumors are predominantly in a midline distrubution (e.g., mediastinum and retroperitoneum).[11] Although initially these are often diagnosed as poorly differentiated or undifferentiated carcinomas, the patients will be found to have elevated serum levels of beta-HCG or alpha-fetoprotein, or these markers will be demonstrated intracellularly with immunohistologic stains. These tumors are extremely responsive and frequently curable with the combination chemotherapy regimens employed in testicular carcinoma (e.g., cis-platinum, vinblastine, and bleomycin).[4] If this remains a possible though not proven diagnosis, then a therapeutic trial with these three drugs must be considered.

After excluding treatable tumors (e.g., breast, prostate, germ cell), one is left with the prospect of empiric systemic chemotherapy for patients with unknown primary undifferentiated and adenocarcinomas. The value of this type of therapy remains to be established; however, Woods et al.[12] recently reported that the combination of adriamycin and mitomycin resulted in a 36% response rate and a significantly increased median survival time for the responders. Only symptomatic patients with measurable disease were treated in an effort to improve their quality of life. Many oncologists now employ the combination of 5-fluorouracil, adriamycin, and mitomycin (FAM) in treating patients with metastatic adenocarcinomas from an unknown primary. This combination has been shown to be active in gastric carcinoma.[13] Certainly, asymptomatic patients need not receive chemotherapy and some symptomatic patients might be better managed with palliative radiation therapy.

*Cervical Nodes:* The inability to locate the primary site probably does not affect survival in patients with squamous cell carcinoma metastatic to upper and mid neck nodes. In patients with a single positive node less than 3 cm in diameter ($N_1$), radical neck dissection and radiation therapy are equally effective approaches and produce three-year disease-free survivals no less than 67%.[14] The radiation therapy must cover the nasopharynx, tonsillar fossa, base of the tongue, and entire neck. Patients with more advanced nodal disease (e.g., nodes greater than 3 cm in diameter, multiple unilateral nodes, fixed node[s], or bilateral involvement [$N_2$,$N_3$]) are best managed with a combination of a radical neck dissection followed by more extensive irradiation. The three-year disease-free survival in this group ranges from 31% to 55%.[14] In other series in which the extent of nodal involvement is frequently not mentioned, the results are variable with the five-year survival extending to 44%.[15] Thus, patients with high and mid cervical nodes from an unknown primary are oft cured with appropriate surgery and/or radiati therapy.

## Conclusions

1. The management of patients with unknow primary carcinomas requires close cooperati between an experienced cancer pathologist and oncologist.

2. Careful pathological examination is essential and undifferentiated tumors this will include immun histologic stains and electron microscopy. All effo must be made to diagnose a possible lymphoma, malignancy that is frequently curable with appropria therapy.

3. In women with metastatic undifferentiated adenocarcinomas, always obtain estrogen a progesterone receptor assays on the biopsy specime

4. Avoid exhaustive, largely unproductive evaluatio to find the primary site. Although CT scanning h improved the diagnostic yield, in the majority of cas we still will not find the primary during the life of t patient and sometimes not even after postmorte examination.

5. Squamous carcinomas metastatic to high and m cervical nodes can be effectively treated and often cur though the primary remains undetected.

6. If in doubt, select treatment which offers hope significant palliation or cure (e.g., cis-platinu vinblastine and bleomycin in suspected extragona germ cell tumors). In adenocarcinomas, consid treatment with adriamycin and mitomycin or FAM.

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## AM *Psychiatric Disorders*

# ost Viet Nam Syndrome: Critique

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ditor:
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Many papers over the last ten years describe sychiatric problems in Viet Nam veterans, with the eneral thrust that these constitute a type of post-aumatic stress disorder with characteristics which are pecific for the veterans of this war. This is even escribed as a "syndrome," consisting of, 1) intrusive, ombat-related thoughts, recurrent nightmares, or ashbacks of combat situations, 2) "numbing" of esponsiveness, alienation, detachment and constricted ffect, 3) "specific" symptoms such as sleep isturbances, depressed mood, anxiety, rage, coholism, chemical dependency, inability to relax, xaggerated startle response, low tolerance to stress, ifficulty concentrating, diminished interest in social activities and somatic complaints. It is stated that "The clinical presentation may vary greatly from individual to individual."[1] It is not obvious how such a variety of "psychiatric" problems could be related with very much reliability to Viet Nam combat stress. This conclusion is not vitiated by the common acceptance of a "post-traumatic stress disorder" as a diagnostic entity.

What is called into question is the specificity of the syndrome vis a vis the Viet Nam war. Any syndrome must be discriminant, not only with regard to "normals," but also other pathological states that may share some symptoms with the delineation of a specific disease entity. This is also true of etiologic variables. In this connection, Archibald and Tuddenham[2] compared the incidence of 17 different symptoms which were found to discriminate between three groups: combat veterans who presented a gross stress reaction; non-combat veterans who were seen for a wide variety of psychiatric disorders, unrelated to a gross stress reaction; and healthy combat veterans. The striking finding here, unremarked upon by the authors, was that the healthy combat veterans showed a lower incidence of symptoms which discriminate for stress reactions in *every instance* than the group of noncombat veterans. Moreover, the differences between the group of healthy combat veterans and the other groups were without exception very large, whereas the symptoms of the other groups largely overlapped.

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om: 3352 East Camelback Road, Suite B, Phoenix, Arizona 85018

It would be very difficult, perhaps impossible, to discriminate the stress of serving in Viet Nam from the stress of some other war; or the quality of stress to which individual men were subjected in the Viet Nam war or any war, except in a subjective way. Frye and Stockton[3] state, "We asked the following questions to measure level of combat: How often did you see someone killed? How often did you fire your weapon at the enemy? How often did you see someone wounded? How often did you find yourself in a combat situation in which you thought you would never survive?"

The issue here is whether such a questionnaire could measure the "level of combat," reported in this paper to be the second most important variable in discriminating between the class of Viet Nam veterans experiencing the syndrome from Viet Nam veterans *not* experiencing the syndrome. The assumption that the assumed "higher level of combat" implies greater "stress" is considered to be self-evident because of the discriminating character of this variable; the possibility that this variable is discriminant for other reasons is not even considered.

It is possible, for example, that men who report symptoms are more likely to exaggerate or distort their recollections of combat experiences. It does not seem possible, in any case, to determine the "level of combat," which turns on the imponderable quality of the combat experience. This cannot be measured by an assessment of "how often did you see someone killed." There are absolute differences between the experience of seeing friends, enemies, strangers, or civilians killed, the way in which one may participate, or not participate, and the hundreds if not thousands of other variables which contribute to the "level of combat."

The assumption that there is a one to one correlation between "level of combat" and stress is likewise unsupportable. Level of stress could not possibly be assessed without regard to the duration of the stress. Nowhere in the recent papers of Frye and Stockton or Friedman, is there a consideration of this factor. For purposes of positing a "Viet Nam Syndrome," it would be necessary to investigate these variables for other wars, otherwise there could be no basis for a Viet Nam Syndrome as opposed to a "World War I Syndrome."

Some reports in the literature which are used to illustrate diagnosis or treatment of delayed stress reactions strain credulity, but the results are nevertheless uncritically quoted in subsequent papers, so that the research, which may be based on weak anecdotal material, obtains a spurious authority.

In one story, the patient described "extensive combat . . . missions involving 'infiltration behind enemy lines' with killing of many enemy soldiers in hand-to-hand combat . . . many buddies killed by enemy fire." He goes on to elaborate a story of hospitalized POW's being herded into "deep, rat-infested pits" where "healthier prisoners would hide behind their screaming, dying buddies, who were being eaten by the rats."[4] This type of story is more suggestive of a psychotic fantasy than any actual experience. Presumably, "infiltration behi enemy lines" means that he was sent on infantry comb patrols. In spite of Hollywood, these seldom resulted "hand-to-hand" combat. The purpose of most su patrols was reconnaissance, not likely to be ve successful if it frequently resulted in hand-to ha combat. The same, of course, might be said for the ra use of patrols for sabotage. The rat story, purportedly an Italian POW hospital, is so intrinsically improbab that it requires no comment. It should be observed th there is no objective way of validating such stories.

Psychiatric papers, quoted by veterans' groups, T. shows and popular magazines, usually try to dramati the plight of the returning veteran. This has create situation akin to the "compensation neurosis" which i frequent consequence of automobile or industr accidents. In these situations, chronic, disabli sequelae are an outcome of even minor inju Although there is frequently some monetary ga involved in being thus disabled, this is not always th case, and it is a misunderstanding to regard th advantage as of central importance.

The root of the problem, overshadowing every oth influence in the direction of disability, is the opportuni to "regress." Here regression is understood to mean th adoption of an attitude which had been superseded the process of normal maturation and development. It assumed that the wish to recreate modes of gratificatio which have been relinquished as part of the process growing up is latent in everyone. Thus, at some leve everyone would like the pleasure and security of bein totally cared for, and devoid of any responsibility, whic has to be given up in the ordinary course of becoming a adult.

There is much indirect evidence that cultural facto are of major importance in the incidence of acute delayed stress reactions, and in the compensatio neurosis.

In World War II the Allied policy of rotating air forc pilots out of combat after a fixed number of missions wa probably responsible for a very high percentage psychiatric casualties, as the end of their combat tou approached. The Soviet Union, who had no such polic claimed a much lower incidence of psychiatric casualt in their pilots. In Korea, as a consequence of experienc in World War II, acute psychiatric casualties were see immediately by a psychiatrist, and returned to comba with the absolute minimum of delay. In World War II th evacuations from combat due to psychiatri disablement were almost 25%. They were only si percent in Korea, and less than two percent in Viet Nam That such acute stress reactions are influenced by man factors other than the severity of the stress seem beyond dispute, in spite of assertions to the contrary.

In the case of hysterical type disorders, with somati complaints, the influence of social factors i overwhelmingly evident, for example in the relativel frequent outbreaks of vomiting and lethargy in schoo hildren, at first attributed to toxic wastes, food oisoning, or other causes, but then discovered to be nass hysteria. There may be a history of much ramatization, with transport by helicopter to medical enters, T.V. crews, the arrival of paramedics, etc. The linical parallel between the "compensation" type of isorder and the chronic or delayed stress disorder is ery clear.

The "rage and paranoia" described as specific for Viet am veterans consisting of "statements and behavior iggesting underlying paranoid thoughts or personality isorders, with projective thinking and angry complaints bout governmental or societal collusion against hem,"[1] is not unique to any type of delayed stress isorder, and is most common in the ordinary type of ompensation neurosis. The explanation for this is in the ore importance of regression in the development of hese disorders, as previously mentioned. The rojection, rage, and paranoia is seen as a defense gainst the feeling of shame, and to a lesser extent guilt, hich is a universal consequence of regression. This is ecause regression involves a violation of the ideal nage of one's self which was achieved with so much ffort in the normal process of maturation. Even when e regression is rationalized (with an assist from octors?) there remains a residuum of the old ego ideal, that the gulf between ideal and reality has widened.

One observes the psychodynamics of this type of hame very clearly in the old stroke victims who become neuretic; no amount of reassurance can eradicate their eep feelings of shame. Papers which dramatize the eculiar aspects of the Viet Nam experience, then, ontribute to the prevalence of the disability which they escribe but misperceive as a consequence of the nique horrors of the Viet Nam conflict.

The following case history illustrates some of the trogenic aspects of an uncritical acceptance of the Viet Nam Syndrome" as explanatory of one type of ehavior disorder: This was a 28-year-old Viet Nam eteran who was referred by a U.S. Court for "a general sychological profile delineating specific psychoogical/mental sequelae which may predispose or notivate him to commit senseless crimes."

He enlisted in the Army in September 1969, and was ischarged in 1972. Since that time, he had been charged ith possessing and selling drugs, forgery involving tolen credit cards, motor vehicle violations, and in 1976 e devised a scheme for defrauding banks which he sed on at least 15 different banks, from the East Coast to awaii. He was tried, convicted on several counts, and laced on probation. There were numerous reports in is file of references to combat experiences in Viet Nam, hich were considered to be of some possible tiological import in the effort to understand his ehavior. One report stated, "He was sobbing openly nd readily admitted his criminal behavior . . . He stated nat there was an incident during his military service hich he had 'never forgotten' and he intimated that this plays a very significant part in the problems he had since discharge, and that he had never shared the incident with anyone. When pressed for details he was overcome with tears, and unable to go on. It was apparent from his affect . . . that the incident was a most traumatic and unresolved experience." Another probation officer, in a telephone conversation with me some two years later stated the the patient had been subjected to "unspeakable trauma" in Viet Nam, and that it was felt by himself and the psychiatrist who had previously evaluated him, that the "unspeakable trauma" was the key to the etilogy of his inexplicable behavior.

In the patient's discussion with me, the thrust of his justification for his illegal behavior seemed to be that he had been irreparably damaged in a psychological way by his war experience. At this point he cried, and it seemed that the traumatic experience was so disturbing that he was unable to talk about it. When I persisted, in spite of his tears, he finally admitted that he had been an avionics technician, and that in fact, he had not seen any combat at all. Very plaintively he said, "Don't you think that it is stressful, just being in the military?"

This case history is not a perfect example of the iatrogenically precipitated type of compensation neurosis, but it does illustrate very well how the nondiscriminating inferences which lead to the diagnosis of a "Post Viet Nam Syndrome" can facilitate regression, which then becomes rationalized and thus acceptable.

In the above case, this patient's need for love and affection is distorted, so that he thinks of this primarily in terms of self-pity, and in projected form, the pity of others. He feels that he has been damaged by life, and this serves two purposes for him. He is able to justify his stealing on the ground that it is a consequence of the "stress" to which he has been subjected. If he is punished, this becomes a source of gratification, too, because it augments his self-pity. His confabulatory and quasi-delusional Viet Nam trauma story is sustained by current psychiatric theorizing, even though good reality testing on his part would make this difficult; how much easier must be the acceptance of the iatrogenically destructive blandishments of the "Post-Viet Nam Syndome" in those veterans who did develop acute disorders in combat, whose real experiences are, for them, forever undeniable?

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Radiology

# Case of the Month No. 62

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Editors:
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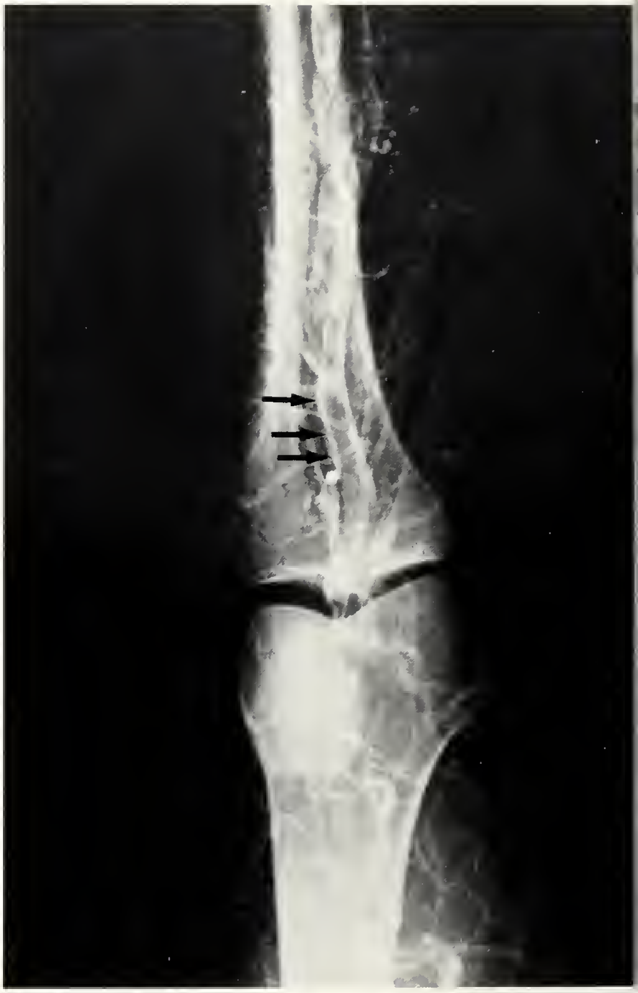

A 62-year-old lady recently had orthopedic surgery. She complained of mild pain in her left calf, but had no swelling or tenderness to palpation. Because of clinical suspicion, a radiographic procedure was performed, (Figure).

What is the procedure?

What are the findings?

Continued on Page 79

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From: The Department of Diagnostic Radiology (JML, SJH) and Pulmonary Medicine (BG), Scottsdale Memorial Hospital, 7400 East Osborn Road, Scottsdale, Arizona 85251.

Special Article

# The CPR Experience Over A One-Year Period n a Rural Hospital

Manuel Ma. Guerrero, III, M.D.
aime M. Reyes, M.D.
Halubai G. Yekanath, M.D.

## Abstract

Hoemako Hospital is a 65-bed institution located lightly north of a point midway between Phoenix and Tucson. It has a drawing area with a 30-mile radius encompassing about 40,000 people. A fair number are elderly winter visitors. There is 24-hour emergency physician coverage, all being certified in Advanced Cardiac Life Support and members of the American College of Emergency Physicians. Two also hold ACLS nstructor's certificates. There are three internists on taff, including a cardiologist. Critical-care services nclude a 4-bed ICU-CCU, plus four telemetries; nvasive monitoring capabilities are also present. All nurses have basic rescue certificates and some possess ACLS certification. Pre-hospital care is given by ntermediate Emergency Medical Technicians and paramedics.

---

From: Hoemako Hospital, Casa, Grande, Arizona. Dr. Guerrero, Director E.D., Dr. Reyes, Staff E.D., and Dr. Yekanath, Attending cardiologist.

## Methodology

In order to evaluate and monitor CPR experience at Hoemako Hospital, a code-arrest registry was opened in early 1980. This paper deals with the period of January 1 to December 31, 1981. When a code is announced, the E. D. physician manages it until the attending doctor's arrival. From then on, it becomes a joint effort. Resuscitation is done following current ACLS recommendations. The decision to terminate efforts is a joint one, based on whether further attempts are indicated. A copy of the work sheet, rhythm strips, chart are sent to the CPR committee. These are reviewed in an on-going manner and presented at the CPR Committee's quarterly meetings.

Only so-called full codes were included. This resulted in exclusion of respiratory arrests, syncope, life-threatening dysrhythmias promptly treated, terminally-ill patients whose death was imminent, and obvious DOA's. If pre-hospital personnel brought in a patient on whom they had already started resuscitation, this was included if the E. D. physician run the code over five minutes. With that methodology, out of 61 codes, 48 were retained, involving 45 patients.

## Results

Average age of patients: 66 years.
Average age of survivors: 70 years.

| | Attempts | Survived |
|---|---|---|
| CPR initiated pre-hospital | 22 | 3 |
| CPR initiated in-house: | | |
| E.D. | 9 | 3 |
| ICU-CCU | 11 | 5 |
| Floor | 6 | 1 |
| | 48 | 12 |
| Survival, short-term | | 2 |
| Survival, long-term | | 10 |
| | | 12 |

### Primary Diagnosis

| | Cases | Survived |
|---|---|---|
| MI or possible MI | 14 | 6 |
| Cardiovascular | 10 | 3 |
| Pulmonary | 4 | 1 |
| Trauma-related | 2 | 0 |
| GI symptoms | 3 | 2 |
| Others | 15 | |
| | 48 | 12 |

### Preexistent Diseases

| | |
|---|---|
| Cardiovascular (HPN, cardiac history, ASCVD) | 18 |
| Pulmonary | 7 |
| Diabetes | 6 |

**Dysrhythmia at Arrest**

| | Cases | Survived |
|---|---|---|
| Ventricular fibrillation | 15 | 8 |
| Ventricular tachycardia | 4 | 2 |
| Asystole, EMD, idioventricular rhythm | 20 | 0 |
| Others | 9 | 2 |

"Down-time" before CPR, no survival was over five minutes.
"Down-time" before CPR, with survival, less than one minute.

Four witnessed arrests, one survival.

Average duration of pre-hospital code:
30 minutes
Average duration of pre-hospital code, with survival: 14 minutes.

Average duration of in-hospital code:
35 minutes
Average duration of in-hospital code, with survival:
14 minutes.

## Discussion

The literature does not show a uniform reporting system although this has been proposed by Eisenberg et al.[1] We have divided ours into short-term survival (died during hospital stay), and long-term survival (lived to discharge). Survival rates range from 14% to 30% for both pre-hospital and in-house CPR.[2-4]

Twenty-two received pre-hospital ACLS, and three survived to discharge (13%). This compares to the pre-hospital range as reported by Eisenberg et al., 3.5% to 31.0%.

The dysrhythmia presented by our survivors was either ventricular fibrillation or tachycardia. According to Mackintosh et al., ventricular fibrillation is amenable to a 50% discharge rate, an observation we corroborated. Out of 48 cases 12 (26.6%) survived short-term, expiring within 24 hours. Of the other ten, all survived to discharge (22.2%). Those who showed an initial dysrhythmia at arrest consisting of asystole, EMD, idioventricular rhythm, either died or lived no more than 24 hours. The advanced ages of our patients correlates with that segment of the population susceptible to heart disease. Although we had one survivor who was 35 years old. The majority were winter visitors.

## Conclusions

1. There appears to be evidence supporting the effectiveness of pre-hospital BCLS and ACLS programs.
2. Ventricular fibrillation and tachycardia are the dysrhythmias most amenable to correction.
3. Advanced age per se is not a barrier to survival after a cardiopulmonary arrest.
4. Small, rural hospitals can deliver survival rates comparable to larger, metropolitan hospitals.

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# adiology Case of the Month

## nswer:
## ontrast venography, showing deep venous rombosis.

Deep venous thrombosis (DVT) is a major cause of orbidity and mortality in the United States today. owever, clinical diagnosis is notoriously inaccurate, nd anticoagulant therapy for DVT is associated with gnificant complications. Therefore, confirmation of e clinical diagnosis is often mandatory. Doppler ltrasound, impedance plethysmography, radionuclide enography and I-125 fibrinogen uptake have all been roposed as relatively noninvasive means for confirming e presence of venous thrombi. Contrast venography, owever, still remains the "gold standard," the iagnostic procedure of choice.

Technique is important in the performance of a lower xtremity venogram. The patient should be examined in ear upright position, with the examined leg in a non- eightbearing position. This assures filling of all the calf eins, and avoids false positive diagnoses. Acute thrombi ppear as intraluminal filling defects. (Figure). If the clots bstruct the veins completely, contrast bypasses the ffected veins, and therefore nonfilling of a vein ndicates DVT if the procedure is done correctly. As hrombi age, they become adherent to the vessel wall, nd this appearance has been called subacute hrombophlebitis. In chronic cases, there is recanali- ation of veins, most often seen as reorganization of the emoral veins in the thigh.

Our patient had no positive Homan's sign or swelling, llustrating the undependability of clinical signs and ymptoms in the diagnosis of DVT. Clinical suspicion led o the venogram, and treatment was begun immediately fter the presence of DVT was confirmed. The patient ad an uneventful recovery.

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Editorial

# Sleep Disorders

*"God bless the man who first invented sleep"*
*Laurence Stern (1713-1768)*

It is quite remarkable that we know so little about a state that consumes a third of our lifetime. We are not even sure why we sleep. We do not seem to deteriorate physically from sleep deprivation, yet throughout history mankind has always been obsessed with sleep's alleged healing and rejuvenating powers. In recent years interest in sleep disorders has increased remarkably. Physiologic and psychologic methodology and technology has improved. Classification systems have evolved. The University of Arizona Health Sciences Center too, has been involved in this trend. New education, research, and service activities have appeared. The breadth and depth of these syndromes are impressive and deserving of a brief descriptive overview.

Insomia is used to describe a state in which an individual complains of being unable to get to or maintain sleep, regardless of whether this is in fact true. Some insomniacs have a perfectly normal sleep pattern.[1] In contrast many short sleepers do not complain of insomnia, are perfectly content and highly productive.[1] The insomniac has an expectation that the night's rest should have been better, and believes that the failure produces much psychological suffering with attendant psychosomatic symptoms. At best, insomnia is a boring experience.

Insomnia is common and thus commonly mistreated.[2] The first step should not be to prescribe sleeping pills or tranquillizers, in fact, that may not be a suitable final choice either. The first approach is to remove factors obviously contributing to sleep disturbance such as ingestion of caffeine and alcohol, and sleeping in an overheated, stuffy, or noisy room. The second is to look for, and hopefully treat medical illnesses or other sleep-related disturbances that may disturb the patient's rest. The cause and effect frequently can be demonstrated by polysomnography. Psychological factors are prominent and usually require evaluation and treatment.

Hypersomnia or excessive daytime sleepiness is characterized by the tendency to have sleep attacks at inconvenient times[3] such as driving, eating, dating and engaging in business; all having potentially unpleasant consequences. Although narcolepsy is a common cause of hypersomnia, it is by no means the sole cause.[4] Hypersomnia may be idiopathic (unaccompanied by the tetrad) or it may be secondary to insomnia, sleep apnea, nocturnal myoclonus, metabolic encephalopathy and central nervous system injury. A most important and avoidable cause is the excessive use of sleeping pills and tranquillizers. It can be difficult clinically to distinguish between hypersomnia and pseudohypersomnia, the latter being a feigning of sleep for psychological reasons.

Thus far we have talked about disturbances of quantity of sleep, but what do we call disturbances of quality of sleep? We use the term parasomnia, of which there are many types. In some individuals their parasomnias may disturb their sleep sufficiently to cause a secondary insomnia. Well known to all are sleep-walking, sleep-talking, bedwetting, night terrors, nightmares, and bruxism (grinding the teeth), most of which occur in childhood.[5] In the adult sleep disorders clinic, we tend to see other conditions such as nocturnal myoclonus, which is a startling jerking of the body and not much of a problem as long as it is infrequent, an the restless legs syndrome, which is an unpleasant sensation in the legs compelling the patient to move continually while drowsy.

No discussion of sleep disorders should fail to put anything less than great emphasis on the Sudden Infant Death Syndrome (SIDS).[6] It is the most common cause of death in infants between one week and twelve months of age, and the deaths usually occur in the first six months of life. Infants at risk for SIDS include prematurity, male sex, a recent upper respiratory infection, a family history of SIDS and past history of near-miss. Home cardiorespiratory monitoring has reduced significantly the infant mortality and the agonizing parental anxiety. It is critical that clues to this condition are never ignored, and that management be initiated emergently.

The importance of these syndromes and disorders is apparent. Patient referrals are everyday increasing and encouraged. Teaching of the topic has received new emphasis in many undergraduate courses and clerkships. A center has been established to focus research on Sudden Infant Death. There has indeed been an awakening.

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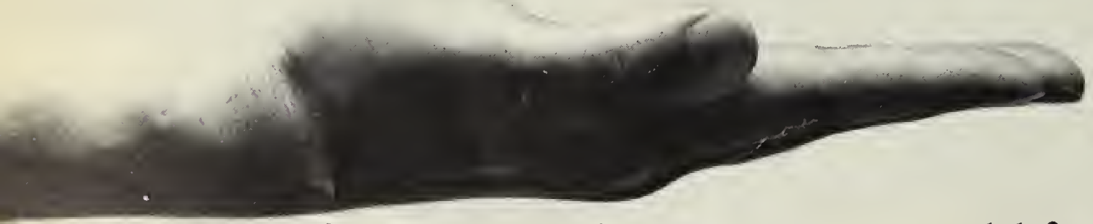

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## Correspondence

### An Open Letter To All Physicians With Physical Disability

For the past two years, we have been involved in compiling a resource directory for physicians with physical disability. The work is funded by a grant from the St. Paul-Ramsey Hospital Medical Education and Research Foundation. The purpose of the project is to list physicians with various physical disabilities who are willing to provide information and referral services to physicians who incur the same disability and need specific information. Existing rehabilitation programs are simply not equipped to deal with the situation.

The biggest problem we are encountering is poor participation. It is currently estimated that four percent of all physicians are not in active practice because of a physically disabling condition, and the 25% of the physicians have the potential to be rehabilitated into the active practice of medicine. In real numbers this constitutes one percent of the licensed physicians in this country or 4,500 physicians. Our goal is to identify these physicians and encourage their participation. To date we have placed advertisements in over 100 major medical journals and have had response from less than 200 physicians. In retrospect, it appears this was due to the use of inappropriate terminology in the ads. Physical disability does not imply inability. Our use of the term "handicapped physician" was inappropriate since the majority of physically disabled physicians are not handicapped in their practice of medicine. We apologize for the inappropriate terminology and again ask that all physicians, active or inactive, with any type of physical disability contact Dr. Zondlo, St. Paul-Ramsey Hospital Medical and Education Research Foundation, 640 Jackson Street, St. Paul, Minnesota 55101. The directory will be completed in six to eight months and at that time it will be sent to only those physicians who are listed therein. Upon receipt of your initial response, information forms will be mailed. All correspondence is confidential.

All physicians with physical disability, no matter how small, are encouraged to respond. Information from a doctor with even a minor disability may be of value to another doctor with multiple disabilities. The cornerstone of this project is your participation.

Frank C. Zondlo, M.D.
St. Paul-Ramsey Hospital
Medical Education and
Research Foundation

---

*Editor:*

I'd like to entitle this "article" "Help me, I'm only a Spouse."

November 1979 my wife suffered a stroke. After being treated by the paramedics and an ambulance ride to the Good Samaritan Hospital, her personal physician was called in to be her primary physician.

I waited and waited for the doctor to get the information he needed from all the tests and from all the doctors. But nary a phone call from the doctor. I waited about a month and finally called the doctor. He curtly said, "call my office for an appointment." He would not answer my questions over the phone. So, I redialed and spoke to his receptionist. It was about a week later before I could get an appointment. At this meeting, his answers were only partly satisfactory.

You must understand that as a pharmacist and owner of a pharmacy, I could not antagonize the doctor. Yet, as a husband, I wanted and needed much more help and information than I was getting.

Now, my wife is in another nursing home and I used this as an excuse to change doctors. But, again, although this doctor or an associate, makes monthly calls to the nursing home. *He does not phone me with any information.* I do admit, when I phone him, he does return my call and answer my questions.

I know doctors are very busy these days. With patients' visits being valued to them at $25.00 or more, they can't afford to take time to speak to a mere spouse. But, really, why can't the receptionist get the spouse on the phone for the busy doctor? The spouse is responsible for all the bills and does most of the worrying for the patient. Please, help me, I'm only a spouse.

A worried spouse.

*Editor:*

Please refer the enclosed to the poetry section of your August magazine, *Arizona Medicine*. It appears that Dr. Jarrett has a monoply on jingles related to various subjects. If he can get published I see no reason why I can't be given the same consideration.

There was a surgeon named Jarrett
He defected to the pathology garret
For better or worse
He dabbled in verse—what a curse!
The poets of yore they did rant,
They did roar
NEVERMORE
If I were Jarrett, I wouldn't dare it!
There may be bats in the garret.
With apologies to anyone who reads this,
I remain, your humble servant,

Dermont W. Melick, M.D.
Phoenix, Arizona

## *Briefly Noted*

**Hector Allende, M.D.,** and **Daniel J. Fredman, M.D.,** Tucson, were recent guests on "Revista Mexicana," a Spanish language telecast aired by Channel 9, KGUN-TV in Tucson.

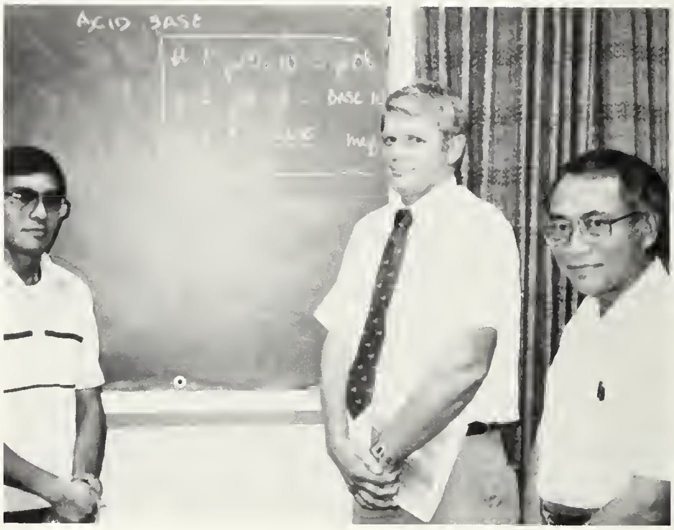
**Jack Copeland, M.D.,** Tucson, addressed the Phoenix Chapter of the University of Arizona Alumni Association on November 9. His topic was, "Who Needs Heart Transplantation and How Does it Affect Their Lives." Dr. Copeland is chief of the Cardiovascular and Thoracic Section of the University of Arizona Health Sciences Center and president of the International Heart Transplantation Society.

**Richard O. Flynn, M.D.,** Tempe, discussed the goals and objectives of the Arizona Medical Association at the October meeting of the Mohave County Medical Society in Kingman.

**Michael F. Montijo, M.D.,** Tucson, taped an interview on "Diabetes" on KXEW, Tucson's Spanish language radio station.

**Mohammed H. Nomaan, M.D.,** Tucson, has been appointed Director of Pediatric Services at Tucson General Hospital.

**John E. Oakley, M.D.,** Arizona Medical Association President from Prescott, was the featured speaker



**ACLS Instructor Manuel Ma. Guerrero, III, M.D. with two of the students at the September ACLS Provider Course, Christian F. Risser, M.D., Phoenix and Raymundo Villalva, M.D. of Kearny (left to right).**

**Phoenix cardiologist David R. Long, M.D discussed "Coronary Artery Disease" at the September "Health Talk" cosponsored by the Arizona Medical Association and Blue Cross & Blue Shield of Arizona.**

Whitney R. White, M.D. and Richard W. Abbuhl, M.D., Phoenix, represented the medical profession when Governor Bruce Babbitt proclaimed November 7-13 as Medical Transcriptionist Week." Drs. White and Abbuhl (back row, left to right) re shown with officers of the Valley of the Sun Chapter of the American ssociation for Medical Transcription.

Bertram L. Snyder, M.D. explains a point to Dr. and Mrs. Howard Kravetz at the Exercise and Physical Fitness for the Weekend Warrior seminar.

**"If voluntary activities were ever to be absorbed by government agencies, this civilization would be over."**
**Herbert Hoover**

when members of the Northern Arizona Chapter of the American Association for Medical Transcription held their first meeting in Prescott.

**Edward Perlstein, M.D.,** Mesa, was recently elected to fellowship in the 11,500 member American College of Cardiology.

**Rex A. Peterson, M.D.,** Phoenix, was awarded the American Society of Plastic and Reconstructive Surgeons (ASPRS) Special Honorary Citation during the Society's 1982 Annual Scientific Meeting held in Honolulu in October. Dr. Peterson is a past president of ASPRS and founded and served as president of the Educational Foundation of the American Cleft Palate Association in 1973.

**Sidney E. Salmon, M.D.,** Director of the University of Arizona Cancer Center, recently was an Invited Lecturer in the People's Republic of China. Dr. Salmon lectured for two weeks in Peking and Shanghai as a guest of the Academy of Traditional Chinese Medicine.

**Richard D. Zonis, M.D.,** Scottsdale, has been appointed by Governor Bruce Babbitt to a five-year term on the Board of Medical Examiners (BOMEX). Dr. Zonis' membership fills a vacancy which has existed since July 1, 1982. His term will begin July 1, 1983.

ArMA members participating in the first program in the 1982-83 Current Perspectives series, "Exercise and Physical Fitness for the Weekend Warrior" included **Stuart I. Holtzman, M.D.,** Program Director and **Karen Crippen Larson, M.D.** of Tucson; **John P. Kelley, M.D.,** Scottsdale; and **Morton H. Dubnow, M.D.,** Phoenix. Registrants represented 20 medical specialties and 14 Arizona communities. Current Perspectives III; Medical and Surgical Management of Coronary Artery Disease is scheduled for Saturday,

**Participating in the first Current Perspectives seminar, Excercise and Physical Fitness for the Weekend Warrior, were (left to right) Drs. Morton H. Dubnow, Phoenix; Stuart I. Holtzman, Program Director, Tucson; and John P. Kelley, Scottsdale, Not shown: Drs. Thomas C. Rotkis and Karen Crippen Larson, Tucson**

December 18, 1982 at the ArMA Building. There is no charge for ArMA members (non-members $20). Advance registration required.

**The Arizona Medical Association welcomes the following Physicians who have become recent members.**

**Coconino**

**Robert K. Phillips, M.D.**
General Practice
6050 Highway 179, Sedona
University of Nebraska - 1952

**Maricopa**

**Joanne M. Ceimo, M.D.**
Cardiology
10585 North Tatum Boulevard
No. D-137, Paradise Valley
New York Medical College - 1975

**John M. Stein, M.D.**
General Surgery
1402 North Miller Road, Scottsdale
Harvard Medical School - 1961

**Mohave**

**William J. Scott, M.D.**
Emergency Medicine
P. O. Box 1131, Lake Havasu City
The Medical College of Wisconsin - 1978

**New Resident Members**

**Corby Jay Benson, M.D.**
Good Samaritan Medical Center
University of Minnesota - 1981

**Desha A. Frankel, M.D.**
Good Samaritan Medical Center
Northwestern Ohio College of Medicine
1982

**Stephen M. Koch, M.D.**
Maricopa Medical Center
University of Arizona - 1982

**Mark W. Lundell, M.D.**
Good Samaritan Medical Center
University of Arizona School of Medicine
1982

**Mary E. MacGuire, M.D.**
Maricopa Medical Center
University of Colorado - 1979

**William R. Silverman, M.D.**
Good Samaritan Medical Center
La Universidad Autonoma de Guadalajara
1980

**Thomas R. Wrona, M.D.**
Good Samaritan Medical Center
University of Illinois, Peoria - 1982

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*Medical History*

# Transformation and the Medicine of Frederick the Great

Irving I. Lasky, M.D., F.A.C.P
Andree Giselle Poher, B.A.

Editor:
John W. Kennedy, M.D.

Frederick the Great of Prussia is a
fascinating figure, one who has to be
understood in the cultural and politic
setting of his time. He is best
appreciated if we are not prejudiced
contemporary political tragedies (The
Holocaust). He was a true hero of his
countrymen and contemporaries

Charismatic leaders such as Frederic
the Great, Malcolm X, Hitler, Zula Kin
Shaka and Theodore Herzl share a
commonality in their accession to
prominence, power and greatness.
Their individual qualities were
quintessential but, to be sure, the
historical, economic, social and politic
aspects of their time and place are als
of import.

What makes a man great: Freud
referred to Moses when he wrote:
". . . that all the characteristics with
which we equipped the great man are
paternal characteristics . . . The
decisiveness of thought, the strength
will, the energy of action are part of
the picture of a father . . . but above

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From: Department of Medicine, The
Angeles County General Hospital, Univers
of Southern California Medical Center,
Angeles, California.

e autonomy and independence of the eat man, his divine unconcern which ay grow into ruthlessness. One must lmire him, one may trust him but one nnot avoid being afraid of him too."[1]

Frederick had all these qualities: he as admired; he was trusted; he was ved; and he was feared. The "per pera ad astra" is that of a strong elief in the great one's mission, a rong resilience, and a special talent r communicating ideas and otivations to the masses of people.

Frederick the Great was born January , 1712. He was the son of Sophia orothea and Frederick William I, the cond King of Prussia. The relationship etween Frederick the Great and his ther, Frederick I, was that of tough nd brutal domination. This almost estroyed young Frederick and might ave deprived society of a great king, a eat humanist and an innovator of any medical advances of 18th century urope.

In Frederick's time as King, there was o lack of competent physicians in 18th entury Europe. Diagnosis was made by tablishing the rate of the pulse and gauging the body temperature (fever as judged by complexion of the skin nd delirium). A further diagnostic iterion was urine examination. Few iseases were actually known: gout, termittent fevers, malaria, smallpox, e plague, typhus, dysentry, influenza, enereal disease, hemorrhoids, stones nd hernia. Treatment for the last two as operation, without anesthesia or ntisepsis.

Venereal disease was treated with ercury ointment and vapors. For alaria there was cinchona bark uinine). Smallpox was ever-present nd led to the first attempts at oculation. In gout the ecommendation was a careful diet, ostention from "red meat, wine and igh living." Gout was thought to be a isease of the well-born, well-to-do nd it was believed that turning to ore frugal habits would be the cure. the case of the plague, there was nly prayer. Wounds, injuries and actures were treated by surgeons and Feldschers" (paramedics).[2]

The "Feldschers" took care of the ck and wounded in battle, as well. lthough it was difficult to organize and apply such measures, a group of physicians—the young Aesculapes—were trained for army hospitals.

At the time there were frequent outbreaks of plague, cholera, smallpox and typhus. These usually took a dreadful toll. Frederick's medicine, at least, began the use of quarantine. Part of this effort at public health and hygiene was also required so as not to interfere with the normal flow of commerce.

Frederick intensely sought to control and ablate Tollwut (rabies), which ran unchecked through the human and animal population. Until the later discovery of the Pasteur treatment of animal inoculation, little could be done.

In the 17th and 18th century, scarely a European family escaped smallpox and the loss of children. Let alone escape its cruelly disfiguring and irrepairable scars on those who survived. Frederick introduced smallpox inoculation.

The public health efforts of Frederick also attempted the control of vice, the elimination of venereal disease, prostitution and infidelity. Prostitutes were delivered to the abhored Spinnhaus (spinning house) near Berlin and were given time to reflect and atone while spinning wool for Prussian cloth manufacturers. Those with venereal disease were placed in the Charite Hospital in Berlin. There, they received mercury treatment.

The King's interest in the Charite, despite his usual restraints in expenditures notwithstanding, appropriated 40,000 thaler annually. It developed into one of the foremost teaching hospitals and centers of medical education. He tightened and tuned the teaching system by strong methods of administration and teaching discipline. The King himself examined the faculty appointments and the leading positions at the Charite carried the title, "Herr Professor." The first experiments in the medical use of oxygen were undertaken at this hospital upon the suggestion of Frederick the Great. His favorite medical subject was human anatomy and he proclaimed that no one could possibly aspire to be a good physician who was not thoroughly conversant with the anatomy of the human body.

The "transformation" of Frederick the Great and its powerful influence had indeed occurred after great crisis and dangerous drama for this king.[3] This monarch overcame the despotism, ignorance and cruel control by his father of both himself and the two million people in the reign. The intensity and the self-discipline with which he strove for harmonious solutions to his political problems assured Frederick of true and lasting greatness.

The death mask (1786) of Frederick the Great has been preserved. He was a man of large and strong facial features and an essentially modest frame. The mask reveals a powerful regal dignity and self-discipline. There is a touch of resignation, but forevermore so a sense of peace which stems from knowing that he has done his work to the best of his ability.

"The adult who sees death as a completion of a pattern and who has spent his time, unfettered by fear, in living richly and productively can integrate and accept the thoughts that his self will one day cease to be."[4]

King Frederick the Great had a strong and profound awareness of the physical and biological universe. He freely and magnificently applied this to his intense devotion to medicine. These dynamic interests, shared with Goethe, occupied his mind and prevented the budding German romanticism of his time. He abhorred German nationalism. Yet, this great Prussian King became the idol of all Germany.

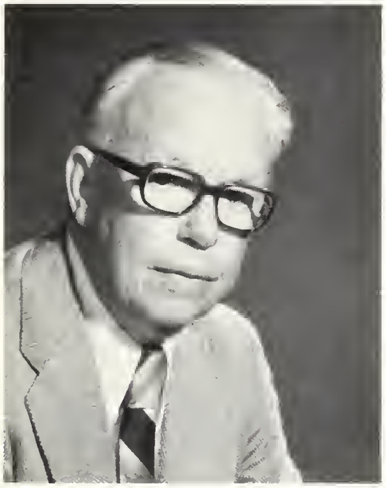
Had he seen his likeness side by side with that of Adolph Hitler, also a man of transformation, but surely not for the better, Frederick the Great would have taken a grim and dim view of such *Amari Aliquid*.

"Comprendre c'est pardonner."

### References

1. Freud S: *Moses and monetheism*. Standard Edition, London, Hogarth Press, 1964; 23:3-137.
2. Veith I: The medical world of Frederick the Great. *Calif. Med* 1971;115:(7)3.
3. Lewy E: The transformation of Frederick the Great. *Psychoanalytic Study of Society* 1967;4:252.
4. Wahl CW: The fear of death. *Bull Meninger Clinic* 1953;22:214-233.

# Obituary



## Norman A. Ross, M.D.
## 1903-1982

Norman was a native of Webster City, Iowa, did his undergraduate work at the University of Iowa and graduated in medicine from the University of Illinois in 1928. Upon graduation from medical school he took the examination for appointment to the Medical Department of the Navy, was accepted and went immediately on duty in San Diego. His career as a Naval Surgeon was cut short when he was retired in April 1929 for pulmonary health reasons.

Upon arrival in Phoenix, with his family, he immediately applied for a position as resident physician at St. Joseph's Hospital here in Phoenix. Fortunately for him, as he related, two of the Sisters of Mercy from the Mercy Hospital in San Diego were on duty in Phoenix and had no hesitation in recommending to the Mother Superior that his services be acquired.

At the time that he was on active duty with the Navy in San Diego, there was no Naval Hospital as such, Navy dependents and personnel were treated by Navy physicians at the Mercy Hospital in San Diego. The Phoenix salary was $100 a month.

His services were so dependable and satisfactory that he was soon offered a position by Dr. A. M. Tuthill, a leading industrial surgeon of Phoenix of that time. This led to a partnership and the thought was that General Tuthill, as he was better known, would retire within three or four years. There was a delay, Tuthill didn't retire for twenty-five years!

Norman's pulmonary ailment must have responded to the climate and an active professional life. He was a mover and shaker. Some of his service to the civil and medical community have been enumerated elsewhere and in part they follow. He acted as Maricopa County physician from 1935-1938, and was resident physician for the Southern Pacific Railroad during the same time period. He was one of the four prime organizers and first president of the Associated Hospital Service of Arizona and later was effective in bringing this to become the Arizona Blue Cross. He served for a time (1950-52), as medical director of the Maricopa County General Hospital, now the Maricopa Medical Center and was instrumental in gaining full accreditation of that institution by the American Medical Association. He served for a great many years on the Board of the Phoenix Union High School and later on the Junior College Board. He served as the founding president of St. Monica's Hospital now Phoenix Memorial and as the first medical director of Mesa Lutheran Hospital, which he helped to develop along with his son Jack Ross who was a prime mover in raising the funds for that hospital, originally. He also served as head of the Greater Phoenix Tuberculosis and Health Association and as an advisory member of the Arizona State Tuberculosis Association. From this partial enumeration of his many extra curricular activities it is quite evident that Norman was indeed a mover and shaker. All during this time he carried on a very active medical and surgical practice, first in association with General Tuthill and then as a solo practitioner. One of his aphorisms concerning politics is a classic. *"The art of politics is putting the pig on the other guy's back."*

Dr. Ross served his community, and his profession with great clarity of thought and wit. There was seldom any doubt about what he stood for, or would stand for.

Dr. Ross is survived by his wife, Edna; a daughter Barbara Ross Parsons of Phoenix; and two sons, Jack Ross of Scottsdale, and Dr. Thomas Ross of Phoenix.

*"Of all the benefits which virtue confers upon us, the contempt of death is one of the greatest."* De Montaigne

John W. Kennedy, M.D.
Phoenix

# ArMA Report

**The minutes appearing in this secti have been condensed. A complete co of them will be sent to any memb requesting one.**

### LONG RANGE PLANNING COMMITTEE

The Long Range Planning Committ met on October 9, 1982. A status repo on the goals and objectives as of September 1982 was presented to the committee. The following actions wer taken:

It was moved and carried to recommend to the Board of Director that the date of the Association's annual meeting be moved back to th last week in April. The committee wa reminded that one of the reasons the date was changed was the cost saving feature of obtaining summer room rates. Also that existing contracts wou not allow the new date to become effective until 1986.

It was moved and carried to recommend to the Board of Director that the Scientific Assembly Committ be instructed to conduct a symposiu for the membership on the subject o bioethics.

It was moved and carried to advise the Board of Directors that there is a growing health care problem among the medically indigent, the growing number of unemployed, and other recognized and unrecognized portio of our population such as the pregna teenager; and that major emphasis should be given these matters by the Association.

It was moved and carried to recommend to the Board of Director that the eight long range goals of the Association be consolidated and reprioritized in the following order:

New Priority 1—To promote optim health and medical services for the citizens of Arizona. (This goal was formally number 5).

New Priority 2—To determine the most effective organizational structur and communication mechanisms for the Arizona Medical Association. (Th goal was formerly number 3 and has been expanded to include the communications concept.)

New priority 3—To represent the entire medical profession, including medical students, in Arizona; such representation to include but not be mited to being the advocate of the embership with legislative, dministrative and judicial arms of the ate government. (This is a onsolidation of former goals number 1 nd number 4.)

New priority 4—To expand the role the Association in promoting and evating the standards of medical hics. (This goal was formerly number )

New priority 5—To provide to dividual members benefits and rvices to aid them in their ofessional pursuits. (This goal was rmerly number 2.)

New priority 6—To represent the embership in matters pertinent to the conomics of medicine (This goal was rmerly number 8.)

To represent the membership in atters pertaining to medical lucation, scientific affairs and omotion of the art and science of edicine. (This goal was formerly umber 6.)

The committee was fully aware that, ould the Board act favorably on this commendation, it will mean a shifting the Association's resources and staff me from the old priority to the new iority as set forth above.

Other actions taken by the ommittee which do not need Board of rectors' approval are as follows:

Risk Management Seminars—To ntact MICA and commend them on e Risk Management Seminars nducted this summer and urge them make the tapes of the seminar ailable to all physicians who could t attend the programs.

Cost Containment Brochures—To ge the Public Relations Committee to nsider using paid advertising to make e public aware that they can obtain MA's brochure, "How to cut your ealth care dollars," at no cost. esently ArMA is negotiating with Blue oss/Blue Shield for 90,000 of the ochures to be sent to all Blue oss/Blue Shield subscribers.

Industry Liaison—That ArMA ntinue to have liaison with industry d to let them know that ArMA is ncerned about health care costs and lling to assist where possible. This is rrently an ongoing process.

Health Promotion Programs—That a py of the ASU research document Health Promotion Programs Targeted Business and Industry" be made ailable to the Maricopa County edical Society and the Pima County edical Society for their use in njunction with their business alition efforts.

Public Relations—That continued forts be made to make the public vare of the many positive actions of ArMA's various committees.

Physician/Legislator Relations—That the Legislative Committee be encouraged to continue to explore specific mechanisms to bring together physicians and legislators for the purpose of educating the respective parties of the other's interests and problems. Such activities to include consideration of the specific interests of the various specialty societies. It was pointed out that this is occurring at the present time and will be increased in frequency in the months ahead.

Board of Director's Agenda—The committee recommended to the President that he have two standing items on the Board of Directors' agenda that would call for regular reports from the Dean of the College of Medicine and the Editor-in-Chief of *Arizona Medicine*, should those two individuals be interested in making such regular reports.

## PHYSICIAN'S HEALTH COMMITTEE PROFESSIONAL GROUP

A meeting called by Thomas E. Bittker, M.D., Chairman of the Physician's Health Committee with various professional groups was held on October 19. The groups represented were ArMA, Arizona Hospital Association, Arizona Osteopathic Medical Association, Arizona Nurses' Association and the Arizona Dental Association.

In an overview on the problem of impairment, Dr. Bittker advised the attendees that the problem whether it be alcohol, drug or emotionally based, was one which affected not only physicians but all professionals and one with which we should be concerned and this meeting had been called with the hope that professional organizations could join together in an effort to be more fully aware and assist each other in programs which would allow early identification of impairment, provide treatment accessibility and develop guidelines for reentry into practice.

After a slide presentation entitled "Early Clues of Physicians Impairment," the representatives briefly discussed the current policies and practices of their respective organizations. It was the general consensus of the organizations represented and that they continue to meet from time to time to discuss mutual problems and lend assistance by way of sharing experience and educational materials and the like.

Upon request from the group, Dr. Bittker said he would speak to any of the professional organizations to develop a list of referral sources which he would share with each organization, and to prepare some type of article relating to stress among professionals which could be distributed to the membership.

It was agreed that Mr. Krause, as President of the Arizona Hospital Association, would select a date and location for the next meeting of the group, to which representatives of other professional organizations would be invited.

## EXECUTIVE COMMITTEE

The Executive Committee met on October 23 prior to the Board of Directors meeting.

In his report from the Department of Health Services, Dr. Sarn spoke briefly on the reorganization of the behavioral health program which will be considered in the next several months. He said the legislative activity concerning three major health programs were in the discussion stages. These programs are maternal and child health, the chronically mentally ill and waste water treatment plants. The balance of the meeting was devoted to his update on the AHCCCS activities and a lengthy discussion among the members.

Following this discussion regarding specific problems which had occurred since the AHCCCS program was officially begun, particularly in the outlying counties, the committee considered Dr. Sarn's request that ArMA provide a panel of physicians to assist in settling medical policies for the AHCCCS program and the committee determined that they would like the opportunity to discuss and consider such a request in greater depth prior to responding.

The agenda for the 10/23/82 Board of Directors' meeting was reviewed, with additions being made.

## BOARD OF DIRECTORS

The Board of Directors met on October 23. A report was received from the Auxiliary in which ongoing and future activities of the group were presented. The President Mrs. Collins also requested that the Board consider moving the dates of the annual meeting back to the latter part of April.

Dr. Meredith, Chairman of ArMPAC reported on the accomplishments of the committee, stating that enrollment had been increased. It was moved and carried to confirm the appointments of Thomas F. Griffin, Jr., M.D., Manuel Ma. Guerrero, III, M.D. and Dale F. Webb, M.D. as members of ArMPAC for the 1982-83 term.

Mr. Robinson, Mr. Walker, and Mrs. Coumbe presented to the Board a detailed proposal for computerization of ArMA's records and accounting systems. It was moved and carried to approve the purchase of a computer system for the Arizona Medical Association, that a portion of the monies heretofore received from the Mutual Insurance Company of Arizona be used for such purchase, and that approval of the final form of the contract for purchase be left to the discretion of the Executive Vice President and legal counsel for the Association.

There was discussion concerning a letter written by Mr. John Burnham on behalf of the Council for Senior Citizens and a letter from Dr. Kettel. It was moved and carried that a letter of invitation be extended to five or six members of the Council for Senior Citizens to join five or six members of ArMA's leadership and staff, who understand the elderly and their problems and the Legislature and their problems, for a dinner meeting, at which time an offer of assistance by way of services, education, lobbying, etc. might be discussed.

The Board reviewed and discussed a request for funds from Alpha Omega. The membership determined that, while many causes were worthy ones, and many similar requests are received but, due to budget restraints, the Association has maintained the practice of advising such groups that funds are unavailable. The Executive Vice President was requested to prepare a policy statement along these lines which might be used in considering future financial requests and, at the same time, allow for exceptions which might arise. It was moved and carried that written contact be made with Alpha Omega indicating ArMA's awareness of the needs of that organizaton in its endeavors but advising that presently funds are not available for the numerous requests received from time to time.

It was moved and carried to confirm the appointment of Charles E. Henderson, M.D. as parliamentarian for the Association.

Dr. Oakley updated the members on the current activity within the AHCCCS program as related to the Executive Committeee by Dr. Sarn during the meeting earlier in the day. The Board discussed at great length the problems which had occurred, particularly in the outlying counties, as a result of the program and its bidding process. Along these lines, the Board reviewed and discussed a recommendation from the Governmental Services Committee that a permanent committee on AHCCCS be established with a full-time consultant to staff same, and a request from Dr. Sarn for the appointment of a panel of physicians to assist in developing AHCCCS medical policies.

It was moved and carried to approve the immediate formation of a committee to factually evaluate the ongoing quality of care, consistent with cost containment, afforded by AHCCCS. The Maricopa County Foundation and the thoughts of the various county medical societies would be considered in forming positive recommendations to the legislature for the obvious necessary changes in the AHCCCS program. The committee would compile a data bank from all facts obtained to provide information when and as needed, with staffing for such committees to be left to the discretion of ArMA's Executive Vice President.

It was moved and carried to confirm the appointment of Walter J Nieri, M.D. as a member of the Public Relations Committee for the term 1982-85.

Following a review of the 10/19/82 letter from the Public Relations Committee and hearing from its chairman, Dr. Clymer, regarding ArMA's commitment to public relations and its dealings with the public and the press, it was moved and carried that the October 18, 1982 recommendation from the Public Relations Committee relating to ArMA's commitment to public relations and its dealings with the public and the press be referred back to that committee requesting that a more specific recommendation be made to the Board of Directors for its consideration, that financial support be more particularly set forth, and that the negative aspects of the Committee's initial recommendations be omitted.

Due to the lateness of the hour and the fact that a luncheon and afternoon program were scheduled with the College of Medicine faculty, as well as out-of-town speakers, It was moved and carried that all items contained on the 10/23/82 Board of Directors' agenda not received or acted upon be carried over to the next meeting of the Board currently scheduled for January 22, 1983.

## MEDICAL ECONOMICS COMMITTE

The Medical Economics Committee met on October 28.

Russ Waters, Health Insurance Agencies of the West, Inc., told the Committee that ArMA had received some complaints from members regarding the cost and coverage of insurance offered by the Association. He explained how his company responds to complaints and the differences between group rates and requirements and individual rates. It was moved and carried that Health Agencies of the West, Inc. has provide good service to members and should continue to do so.

Dr. Mobley explained that ArMA's cosponsorship of a computer seminar on December 3-4, 1982 at Carefree wa the result of a decision made at the la Medical Economics meeting. He said that it should prove interesting and w made available at no cost to the Association.

The Committee felt they had no interest in pursuing the subjects of re estate investing, car rental discounts, a kidnap/extortion insurance program, the Valley National Bank's financial education proposal.

The Committee did express interest in the return of dues program and it was moved and carried that the Committee postpone action on this subject until Russ Waters could prepa a critique on the program. A mail or telephone survey would then be made of the members and an answer should be ready before the end of December 1982.

The possibilities of a mini-seminar i tax planning laws was discussed. Drs. Sosnow, Ganter, Barclay-White and Mabry appeared before the committe for help in planning a presentation to the Industrial Commission for a raise i Radiology fees for next year. Suggestions were offered to them. It was also suggested that someone from the Industrial Commission should be invited to address the next Medical Economics meeting which may be hel in January.

# Future Medical Meetings

ie following institutions and organizations have en accredited for their continuing medical ucation programs/ by the Arizona Medical sociation and/or the Accreditation Council for ontinuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center of Northern Arizona
Good Samaritan Medical Center, Phoenix
Health Maintenance Associates, Phoenix
Maricopa Medical Center, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoenix
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program, (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

ie accredited institutions and organizations above oduce a variety of continuing medical education ograms. Each accredited institution and ganization is responsible for designating which of ese programs meet ArMA's requirements for ategory 1 credit. Physicians who participate in ograms which are designated Category 1 by ccredited institutions will receive Category 1 credit ward the ArMA Certificate in CME and the AMA's hysician's Recognition Award.

## DECEMBER

**urrent Perspectives III: Medical and urgical Management of Coronary Artery isease**
ecember 18. ArMA Offices, Phoenix. ponsor: Arizona Medical Association. ontact: Nikki Mertz, ArMA, 810 West ethany Home Road, Phoenix, Arizona 5013. (members no charge—nonmembers 20.) Approved for 3½ hours of Category 1 redit.

## 1983

## JANUARY

**rauma Care '83—National Symposium on rauma**
anuary 9-13. Scottsdale Hilton Hotel. ponsor: John C. Lincoln Hospital and ealth Center, Lincoln Institute of Surgery and Trauma, and Emergency Medicine Consultants. Contact: Robert J. Rankel, M.D., Chairman, Trauma Care '83, c/o John C. Lincoln Hospital and Health Center, 9211 North Second Street, Phoenix, Arizona 85020.

**Dean's Clinical Rounds**
January 12. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Advanced Cardiac Life Support Recertification/Provider**
January 18-20. John C. Lincoln Hospital, Phoenix. Sponsor: ACLS, Az Affiliate American Heart Assn. and ArMA. Contact: Beverly Richter, Arizona Chapter, American College of Emergency Physicians, 810 W. Bethany Home Road, Phoenix, AZ 85013. Provider course approved for 21 hours of Category 1 credit and Recertification approved for 13 hours.

**Current Perspectives IV: Newer Imaging Techniques**
January 19. ArMA Offices, Phoenix. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20). Approved for 3½ hours of Category 1 credit.

**Skeletal Fixation of Fractures**
January 21-22. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 11 hours Category 1 credit.

**Endocrinology**
January 22. U. of A. Health Sciences Center. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

**Computer Applications in Critical Care Medicine**
January 27-28. Registry Resort, Scottsdale. Sponsor: Phoenix Baptist Hospital and Medical Center. Contact: Sharon Luczu, Allied Health Coordinator, Phoenix Baptist Hospital and Medical Center, 6025 N. 20th Ave., Phoenix, Arizona. Approved for 12 hours of Category 1 credit.

## FLEXIBLE SIGMOIDOSCOPY

## A Useful Tool in Colonic Disease

**Saturday, February 12, 1983**
**Phoenix Baptist Hospital and Medical Center**

This one day symposium will consist of a morning lecture series on diverticular and inflammatory bowel diseases, neoplasia, irritable bowel syndrome, pathological and radiological considerations and practical aspects of utilizing the flexible sigmoidoscope. The afternoon session will provide a clinical workshop with both models and patients.

Registration fee is $75.00 and the program has been approved for 6 hours of Category 1 CME credit.

For additional information contact:

**Patty Askew, Library/CME Coordinator**
**Phoenix Baptist Hospital and Medical Center**
**6025 North 20th Avenue**
**Phoenix, Arizona 85015**
**(602) 249-0212, extension 5809**

## FEBRUARY

**Third Annual Arizona ACEP Symposium**
February 3-5, 1983. Red Lion Resort, Scottsdale. Sponsor: Arizona Chapter American College of Emergency Physicians. Contact: Beverly Richter, AZ ACEP, 810 West Bethany Home Road, Phoenix, Arizona 85013. Approved for 18 hours of Category 1 credit.

**Musculoskeletal Problems**
February 12. Ramada Safari Resort. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for 8 hours of Category 1 credit.

**Fifth Annual International Cataract Surgery Symposium**
February 14-16. The Alamos Resort, Scottsdale, Arizona. Sponsor and Contact: The Eye Foundation, 525 N. 18th Street, Ste 504, Phoenix, Arizona 85006.

**Pediatric Update 1983**
February 14-17. La Posada Resort. Sponsor: St. Joseph's Hospital and Medical Center, and Phoenix Children's Hospital a Division of Good Samaritan Medical Center. Contact: Ronald A. Christensen, M.D., 1117 East Willetta, Phoenix, Arizona 85006. Aprpoved for 16 hours of Category 1 credit.

**Current Perspectives V: Dilemmas of a Teenager**
February 16. ArMA Offices. Sponsor: Arizona Medical Association. Contact: Nikki Mertz, ArMA, 810 West Bethany Home Road, Phoenix, Arizona 85013. (members no charge—nonmembers $20). Approved for 3½ hours of Category 1 credit.

**Neurological Symptoms**
February 17-19. Arizona Inn, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center. Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**9th Annual Frontiers in Ophthalmology**
February 17-19. Mountain Shadows Resort, Scottsdale. Sponsor: St. Luke's Medical Center. Contact: Christine Campbell, Medical Meeting Planner, St. Luke's Medical Center, 525 North 19th Street, Phoenix, Arizona 85006. Approved for hour per hour Category 1 credit.

**Conference on Medical Aspects of Boxing**
February 18, 1983. Caesar's Palace Hotel, Las Vegas. Sponsor: American Medical Association and Association of Ringside Physicians. Contact: Dept. of Environmental, Public and Occupational Health, American Medical Associaton, 535 North Dearborn Street, Chicago, Illinois 60610. Approved for 6 hours of Category 1 credit.

**Sixteenth Annual Southwestern Clinical Pharmacy Seminar: Advances in Infectious Disease Pharmacotherapy**
February 18-20. Ramada Inn, Tucson. Sponsor: U. of A. College of Pharmacy. Contact: Jack R. Arndt, Ph.D., College of Pharmacy, U. of A., Tucson. 9 hours of Category 1 credit have been applied for.

**Ambulatory Electrocardiography: Clinical Applications, Methodology and Interpretation**
February 18-20. La Posada Resort, Scottsdale. Sponsor: International Medical Education Corp. Contact: International Medical Education Corp, 64 Inverness Drive East, Englewood, Colorado 80112. Approved for 13 hours of Category 1 credit.

**The Tenth Annual Barrow Neurological Symposium**
February 24-26. La Posada Resort, Phoenix. Sponsor: St. Joseph's Hospital and Medical Center/Barrow Neurological Institute. Contact: Richard A. Thompson, M.D., Barrow Neurological Institute, 350 West Thomas Road, Phoenix, Arizona 85013. Approved for hour per hour Category 1 credit.

**Anesthesia for the 80's, 9th Annual Scientific Meeting**
February 25-27. Doubletree Inn, Scottsdale. Sponsor: University of Arizona College of Medicine, Dept. of Anes. and Arizona Society of Anesthesiologists. Contact. Beverly Richter, Arizona Society of Anesthesiologists, 810 West Bethany Home Road, Phoenix, Arizona 85013. Approved for 15.25 hours of Category 1 credit.

**Emergency Care Update -V**
February 28-March 2. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

## MARCH

**Changes & Controversies in Pediatrics**
March 3-6. Marriott Hotel, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Sixth Annual Mid-Winter Symposium in OB/GYN**
March 9-11. Scottsdale Hilton Hotel, Scottsdale. Sponsor: Marciopa County General Hospital and Phoenix OB/GYN Society. Contact: Secretary, Phoenix OB/GYN Society, 3412 N. Fourth Ave. Phoenix, Arizona 85013. Approved for 14 hours of Category 1 credit.

**4th Annual Sports Medicine Symposium**
March 10-12. Arizona Health Sciences Center, Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Fifth Annual Symposium on Current Concepts in the Management of Chronic Pain Syndromes**
March 12-13. Scottsdale Hilton Resort. Sponsor: Maricopa Medical Center. Contact: George Wallace M, D., Interim Chairman, Dept. of Anes., Director, Pain Clinic, Maricopa Medical Center, 2601 Ea Roosevelt, Phoenix, AZ 85008. Approved for hour per hour Category 1 credit.

**Current Perspective VI: Newer Aspects of VD**
March 16. ArMA Offices, Phoenix. Spons Arizona Medical Association. Contact: Nik Mertz, ArMA, 810 West Bethany Home Roa Phoenix, Arizona 85013. (members charge—nonmembers $20). Approved for hours of Category 1 credit.

**Arizona Chest Symposium**
March 24-26. Doubletree Hotel, Tucson. Sponsor: U. of A. Health Sciences Center. Contact: Sandy Younker, R.N., Chest and Allergy Clinic, Tucson Medical Center, P. Box 42195, Tucson, AZ 85733. Approved for hour per hour Category 1 credit.

**Dermatology**
March 26. Arizona Health Sciences Center Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Cente Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

**Dean's Clinical Rounds**
March 30. Arizona Health Sciences Center Tucson. Sponsor: U. of A. College of Medicine. Contact: Office of Continuing Medical Education, U. of A. Health Sciences Center, Tucson, AZ 85724. Approved for hour per hour Category 1 credit.

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### 33rd ANNUAL COURSE FOR PHYSICIANS IN FAMILY PRACTICE

**March 9-11, 1983**

For the 33rd consecutive year, Mount Zion Hospital and Medical Center presents this postgraduate course designed for physicians in family and general practice.

To be held at Mount Zion Hospital an Medical Center, San Francisco, on Wednesday through Friday morning, March 9, 10 & 11, 1983.

Co-Chairmen: Rene Bine, Jr., M.D.
James A. Davis, M.D.

Tuition: $195.00

For more information, contact:

**Office of Continuing Education**
**Mount Zion Hospital and**
**Medical Center**
**P.O. Box 7921**
**San Francisco, CA 94120**
**415/567-6600 Ext. 2404**

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## MONTHLY OR WEEKLY

**Shrine Medics Meeting**
Second Tuesday of each month, Humana Hospital Phoenix, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N Central Ave., Phoenix, AZ 85012.

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TIERS IN

OPHTHALMOLOGY

1983

**The 9th annual FRONTIERS IN OPHTHALMOLOGY seminar will explore the latest advancements in ophthalmic care.**

**Featured topics and speakers will include:**

**CATARACT/IOL:** Steven P. Shearing, M.D., Chief of Ophthalmology, Valley Hospital, Las Vegas. **CORNEA/RADIAL KERATOTOMY:** J. James Rowsey, M.D., Director, Corneal Research, McGee Eye Institute, Oklahoma City. **GLAUCOMA/LASER TRABECULOPLASTY:** James B. Wise, M.D., Chairman, Department of Ophthalmology, Baptist Medical Center, Oklahoma City. **NEUROPHTHALMOLOGY:** Robert Hepler, M.D., Professor of Ophthalmology, Jules Stein Eye Institute, U.C.L.A. Center for the Health Services, Los Angeles. **OCULAR ONCOLOGY:** Devron H. Char, M.D., Director, Ocular Oncology Unit and Professor of Ophthalmology, University of California, San Francisco. **OCULOPLASTICS:** Orkan George Stasior, M.D., Clinical Professor of Ophthalmology and Director of Oculoplastic Service, Albany Medical College, Albany, N.Y.

**February 17-19, 1983** • Mountain Shadows Resort, Scottsdale, Arizona

Seminar Chairman: Edward L. Shaw, M.D., Chief of Ophthalmology,
St. Lukes Hospital, Phoenix

Approved for 15 hours, Category I C.M.E. credit

**Sponsored by the Prentice Eye Institute, and St. Luke's Medical Center, Phoenix.**

For additional information, call or write:
Christine Campbell, Medical Meeting Planner
St. Luke's Medical Center
525 N. 18th St., Phoenix, Arizona 85006
(602) 251-8402

**ediatric Grand Rounds**
uesday 7:30-8:30 a.m in Phoenix:
t Tues.—Phoenix Indian Hospital,
d Tues.— Maricopa County Hospital,
d Tues.—Good Samaritan Hospital,
h Tues.—St. Joseph's Hospital.
ponsor: Maricopa Medical Center
hoenix Hospital's Affiliated Pediatric
ogram). Contact: J. Kipp Charlton, M.D.,
01 E. Roosevelt, Phoenix, AZ 85008.
pproved for 1 hour per session Category
credit.

**eview of Forensic Pathology**
**urrent Case, Special Topics**
hursday, weekly, 11 a.m., 120 S. 6th Ave.,
hoenix, AZ. Sponsor: Arizona Society of
athologists. Contact: H.H. Karnitschnig,
.D., 120 S. 6th Ave., Phoenix, AZ.
pproved for 1 hour per session Category
credit.

## ARIZONA HEART INSTITUTE

800 N. 22nd St., Phoenix, P.O. Box 10,000,
hoenix, AZ 85064. Contact: Ravi Koopot,
.D.

**linical Conference**
**ardiovascular Medicine**
hird Tues., 5:15 p.m., second floor
lassroom

## ARIZONA STATE HOSPITAL

500 E. Van Buren, Phoenix, AZ. 85008.
ontact: Arnold L. Kendall, M.D.

**A.S.H. Psychiatric Grand Rounds**
2nd Wed., 1:00-2:00 p.m., J-6 Conf. Rm., Contact: Dr. Conger & Staff

**Clinical-Pathological Conference**
3rd Wed., 1:30-2:30 p.m. General Services Bldg., Conf. Rm.

**Medical Grand Rounds**
4th Wed., 1:00-2:00 p.m., Medical Bldg. Conf. Rm.

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### 1983 CME CRUISE/CONFERENCES ON LEGAL-MEDICAL ISSUES

Caribbean, Mexican Riviera, Alaska, Mediterranean. Seven to 14 days in January, April, July, August. Seminars led by distinguished professors. Approved for 18-24 CME Category 1 credits. FREE ROUNDTRIP AIRFARE ON ALL CARIBBEAN, MEXICAN, ALASKAN CRUISES. Excellent group fares on finest ships. All conferences, scheduled prior to 12/31/80, conform to IRS tax deductibility requirements under 1976 Tax Reform Act. Registration limited. For color brochures and additional information contact:

**International Conferences**
**189 Lodge Avenue**
**Huntington Station, NY 11746**
**Telephone: (516) 549-0869**

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### EASTER WEEK CME CRUISE/CONFERENCE ON MEDICOLEGAL ISSUES

**April 2-9, 1983**

**Mexican Rivera**

Eighteen hours of Category 1 credits. FLY ROUNDTRIP FREE TO LOS ANGELES. Excellent group fares on finest ship. Registration limited. Tax Deductible under 1976 Tax Reform Act.

Information:

**International Conferences**
**189 Lodge Ave.**
**Huntington Station, New York 11746**
**(516) 549-0869**

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## BARROW NEUROLOGICAL INSTITUTE

**Medical Education**
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St Joseph's Hospital & Medical Center. Contact: John R. Green, M.D. Approved for 1 hour Category 1 credit.

**Neurology Teaching Conference**
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.

**Neurosurgical Morbidity Conference**
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.

**Neuro-ophthalmology Conference**
Mondays, 7:30 a.m. in 8th floor neurology conference room.

**Spinal Injury Conference**
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.

**Neuropathology of Gross Specimens Conference**
Thursday, 7:30-8:30 a.m. in the Morgue.

**Neurology-Neurosurgical**
Fridays, 8-9 a.m., First Floor Conf. Rm.

**Neuropathology or Neuroradiology Conferences**
Friday, 9 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conf. Rm.

**Neurorehabilitation Conference**
Tuesdays, noon, 8th Floor Conference Rm.

**Neurosurgical Journal Club**
Saturdays, 9-11 a.m. in Eighth Floor Conference Rm.

## WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, ED.D., Director of Education.

**Medical Department Continuing Medical Education**
4th Wednesday, 12 Noon, C119. May, July, Sept. & Nov.

**Tumor Board**
Last Thursday of the month, 12 Noon, Educ. Center Classroom I & II, May, July, Sept. & Nov.

**Surgical Department CME**
4th Friday, 7 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

## CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: Howard Gray, M.D. and Robert Meyer, M.D. Approved for Category 1 credit.

**Clinical Conference**
3rd Tuesday, 8-9 a.m.

## DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona, Contact: L.A. Rosati, M.D. Approved for Category 1 credit.

**CME Programs**
Weekly, Tuesday, 7 p.m., Cafeteria-West End.

**Clinical Conference — Dept. of Medicine**
Weekly, Thursday, 12:30-1:30 p.m. Buffet Lunch, Grande Rm.

**OB/GYN Medical Staff Conference**
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.

**Pediatric Case Conference**
2nd. Friday, 12:30 p.m., Grande 2.

## HUMANA HOSPITAL PHOENIX

1747 East Thomas Road, Phoenix, Arizona 86016 Contact: Medical Staff Secretary for additional information.

**Physicians Continuing Education Program**
1st Thursday, 12:30 p.m., Classrooms.

## EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmont Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

**Family Practice Department Meeting**
1st Monday, 12 Noon, (March, June, Sept. and Dec.) Contact: R. Grossman, M.D.

**Surgical Department Meeting**
3rd Monday, 11:45 p.m.

## FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.

**Interesting Case Conference**
1st Tuesday, 12:30 p.m., Tollefson Rm.

**Clinical Conferences**
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.

**Tumor Board Case Conference**
3rd Tues., 12:30 p.m., Hospital Conf. Rm.

**Mortality & Morbidity Conference**
1st Thurs., 12:30 p.m., Hospital Conf. Rm.

## GOOD SAMARITAN MEDICAL CENTER

1111 East McDowell Rd., Phoenix, AZ. Approved for Category 1 credit.

**Obstetrical Sectional Conference**
1st Monday, 12:30-1:30 p.m., Conf. Rm. E.

**Gynecological Section Conference**
2nd Monday, 12:30-1:30 p.m., Conf. Rm. E.

**Obstetrical Sectional Conference**
5th Monday, 12:30-1:30 p.m., Conf. Rm. E.

**Pulmonary Grand Rounds**
Weekly, Monday, 12 noon- 1 p.m., Amphitheater.

**Family Practice**
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.

**Pediatric Grand Rounds**
3rd Tuesday, 7:30-8:30 a.m., Amphitheater.

**Family Practice**
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.

**Cardiology Grand Rounds**
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.

**Medical Noon Conference**
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.

**Clinical Cancer Fourm**
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.

**Family Practice**
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.

**Tumor Conference**
2nd, & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.

**Surgical Grand Rounds**
Weekly, Wednesday, 7:00-8:30 a.m., Amphitheater.

**Family Practice**
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.

**Medical Noon Conference**
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.

**Joint Tumor Gyn Conference**
2nd Fri., 12:00-1:00 p.m., Conf. Rms. E-F.

**Medicine Grand Rounds**
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.

**Neurology Grand Rounds**
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.

**Psychiatry Grand Rounds**
Weekly, Friday, 11:00-12:00 noon, Education Bldg. West.

## KINO COMMUNITY HOSPITAL, (THMEP)

2800 E. Ajo Way, Tucson, AZ. 85713. Contact: Eric C. Ramsay, M.D., Approved for Category 1 credit.

**Surgical Conference**
Weekly, Monday 8:00 a.m., Contact: R. Fischer, M.D.

**Medical Conference**
Weekly, 12:30 p.m., Contact: Chief Medica Resident.

**OB/GYN Pathology Conference**
Weekly, Thursday, 1:30 p.m., Contact: Jay Fleishman, M.D.

**Psychiatry Journal Club**
Weekly, Thursday, 12 Noon, Contact: Jos Santiago, M.D.

## MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 8500

**Continuing Medical Education Program**
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

**Tumor Board**
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

## MARICOPA MEDICAL CENTER

2601 E. Roosevelt, Phoenix, AZ 850 Contact: Leonard Tamsky, M.D.

**Anesthesiology Morbidity & Mortality Conference**
Weekly, Mondays, 2:45 p.m., Santa Cruz Room, Contact: George Wallace, M.D.

**Medicine Conference**
Daily 12-1 p.m., Contact: S. Schaffner, M.

**Chest Surgery Conference**
Weekly, Mondays, 1:30 p.m., Santa Cruz Room.

**Hematology Conference**
2nd Tuesday, 1:00 p.m., Contact: Walt Koppenbrink, M.D.

**OB/GYN Dept. Grand Rounds**
Weekly, Tuesday, 12 Noon, Santa Cruz Room.

**Obstetrical Problem Conference**
Weekly, Tuesday, 7:30 a.m., Yavapai Rm.

**Orthopedic Conference**
Weekly, Tuesday, 7:30 a.m., Santa Cruz Room.

**Pediatric Grand Rounds**
2nd Tuesday, 7:30-8:30 a.m., Contact: Robert Ganelin, M.D.

**Jrology Discharge Planning Conference**
Veekly, Tuesday, 11:30 a.m., Station 42.
**Hand Surgery Conference**
Veekly, Wednesday, 7:30 a.m., Santa
Cruz Room.
**Neurosurgery Discharge Planning**
Veekly, Wednesday, 1:30 p.m., Station 42.
**DB/Neonatology Seminar**
Veekly, Wednesday, 7:30 a.m., Yavapai Rm.
**Clinical Psychiatric Conference**
Veekly, Wednesday, 11-12 p.m., Mental
Health Annex, Rm. 1346.
**Surgery Conference**
Veekly, Wednesday, 7-8 a.m., Surgical
Dept.
**Current Concepts in Medicine & Surgery**
st Thursday, 1 p.m., Dr. Hospital Class
Rm., Contact: Dr. Tamsky.
**Cardiology Conference**
Veekly, Thursday, 2 p.m., Santa
Cruz Room.
**DB/GYN Resident Conference**
Veekly,Thursday, 12 p.m., Yavapai Rm.
**GYN Endocrine Seminar**
st & 3rd Friday, 12:30 p.m., Santa
Cruz Room.
**DB/GYN Surgical Pathology Conf.**
Veekly, Friday, 7:30 a.m., Yavapai Rm.
**Orthopedic X-Ray Conference**
Veekly, Friday, 7:30 a.m., Santa
Cruz Room.

## MESA LUTHERAN HOSPITAL

01 West 10th Place, Mesa, Arizona 85201.
Contact: E. John Wickman, M.D.
**Continuing Medical Education Programs**
Tuesdays, 6:30 p.m., Ocotillo Rm.

## PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

025 N. 20th Ave., Phoenix, AZ 85015.
Contact: J. Burr Ross, M.D., Approved for
Category 1 credit.
**Clinical Conferences**
st, 2nd & 3rd Tuesdays, 12 noon, 5th floor
uditorium.
**PC or Medical-Surgical Forum**
th Tuesday, 12 noon, 5th floor auditorium.

## PHOENIX INDIAN MEDICAL CENTER

212 North 16th St., Phoenix, AZ 85016.
Contact: Leland L. Fairbanks, M.D.,
pproved for Category 1 credit.
**ediatric Grand Rounds**
st Tuesday, 7:30-8:30 a.m., Contact: D.
andall, M.D.
**linical Staff Teaching Conference, Rm. A.**
Veekly, Wednesday, 7:30-8:30 a.m.
**tolaryngology Grand Rounds**
th Wednesday, 4-5 p.m., Conference Rm.
, Contact: N. Wendell Todd, M.D.
**amily Practice/Emergency Room eaching Conference**
hursday, Weekly, 7:30-8:30 a.m., Conf.
m. A, Contact: Drs. L. Fairbanks & E.Y.
ooper.

## PHOENIX MEMORIAL HOSPITAL

201 S. 7th Ave., Phoenix, AZ 85036.
ontact: George Scharf, M.D. Approved for
ategory 1 credit.
**Monthly Medical Education Seminar**
3rd Monday, 6:30 p.m., Kiva Conf. Rm.
**Clinical Conferences**
Weekly, Tuesday, 12:30 p.m., Kiva
Conference Rm.
**Psychiatric Clinical Conference**
2nd Friday, 11:30 a.m., B-Wing Conf. Rm.,
Contact: Medical Staff Secretary.
**Tumor Board Conference**
Weekly, Friday, 12 p.m., Kiva Conf. Rm.
Contact: H. Kimball, M.D.

## SCOTTSDALE MEMORIAL HOSPITAL

7300 East 4th Street, Scottsdale, AZ 85251.
Contact: W. S. Williams, M.D., Approved for
Category 1 credit.
**Family Practice Conference**
1st Monday, 12:30 p.m., Doctors' Lounge.
**Emergency Medical Services Conference**
2nd Monday, 12:30 p.m., Doctors' Lounge.
**Neurology/Neurosurgery Conference**
3rd Monday, 12:30 p.m., Doctors' Lounge.
**CPC Conference**
4th Monday, 12:30 p.m., Doctors' Lounge.
**Pediatrics Conference**
5th Monday, 12:30 p.m., Doctors' Lounge.
**Pulmonary Conference**
1st Tuesday, 12:30 p.m., Doctors' Lounge.
**Cardiology Conference**
2nd Tuesday, 12:30 p.m., Doctors' Lounge.
**Surgery Conference**
3rd Tuesday, 12:30 p.m., Doctors' Lounge.
**Resident Grand Rounds**
4th Tuesday, 12:30 p.m., Doctors' Lounge.
**Medical Subspecialties**
5th Tuesday, 12:30 p.m., Doctors' Lounge.
**Uronephrology Conference**
3rd Thursday, 12:30 p.m., Doctors' Lounge.
**Tumor Conference**
4th Thursday, 12:30 p.m., Doctors' Lounge.
**GI/Med/Surg/Radiology Conference**
2nd Friday, 12:30 p.m., Doctors' Lounge.

## ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ
85013. Contact: Joseph C. White, M.D.
**OB/GYN Section Conference**
3rd & 4th Mondays, 12:30-1:30 p.m., 1st
Floor Conf. Rm.
**Genetics Conference**
Weekly, Monday, 12:30 p.m., Pediatric
Department.
**Pediatric Rounds**
Weekly, Monday, Wed. & Friday, 10:30 a.m.,
Pediatric Department.
**Pediatric Grand Rounds**
4th Tuesday, 7:30-8:30 a.m., Contact: J.
Kipp Charlton, M.D.
**ECG Conference**
Weekly, Tuesday, 12:30 p.m., Pediatric
Department.
**Medical Grand Rounds**
Weekly, Wednesday, 8 a.m., 1st Floor Conf.
Room.
**Visiting Professor Formal Presentation**
Weekly, Thursday, 8 a.m., PIMC.
**Visiting Professor Informal Presentation**
Weekly, Thursday, 9:30 a.m., 1st floor Conf.
Rm.
**Visiting Professor Formal Presentation**
Weekly, Thursday, 12:30 p.m., PIMC.
**Nephrology Conference**
Weekly, Fridays, 12:30 p.m., Pediatric
Department.

## ST. JOSEPH'S HOSPITAL (THMEP) TUCSON

350 N. Wilmot Road, Tucson, AZ. Contact:
Eric G. Ramsay, M.D. Approved for
Category 1 credit.
**Family Practice Department Meeting**
3rd Tuesday, 12 p.m., Contact: Wm.
Moteforte.
**Ophthalmology Morbidity/Mortality Conf.**
4th Tuesday, 12:15 p.m., Contact: Kim
Sowards.
**Current Concepts in Medicine**
Weekly, Tuesday, 12 p.m., Auditorium.
**Hematology-Oncology Conference**
Last Wednesday, 12:15-1:15 p.m., Contact:
S. Salmon, M.D.

## ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ,
Contact: Gerald L. Hansbro, M.D.

**Cardiac Conference**
Weekly, Monday, 12:15 p.m., Auditorium.
**Chest Conference**
4th Monday, 12:15 p.m., Phillips
Auditorium.
**Surgery Conference**
1st Tuesday, 12:15 p.m., Auditorium.
**Emergency Medicine Conference**
1st Wednesday, 12:15 p.m., Auditorium.
**Cardiovascular-Thoracic Record Review**
3rd Wednesday, 12:15 p.m., Auditorium.
**Pulmonary Case Conferences**
1st Thursday, 7:30 a.m., Phillips
Auditorium.
**Psychiatry Conference**
3rd Thursday, 7 a.m., Auditorium.
**Combined Medical General Practice Conference**
1st Friday, 12:15 p.m., Auditorium.
**Toxicology Grand Rounds**
2nd Friday, 7:30 a.m., Auditorium.
**Ophthalmology Conference**
1st Saturday, 8:30 a.m., Auditorium.

## ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ
85703. Contact: see below.
**Monthly Specialty Conference — Dept. of Surgery**
1st Monday, 7:30 a.m., Century Rm. A.,
Contact: Med. Staff Office.
**Grand Rounds: Medical Surgical, Family Practice, Pathology, Radiology**
Weekly, Thursday.
**Emergency Medicine Lectures**
Weekly, Thursday, 8 a.m., Century Rm. A.
**Mental Health Update**
1st Friday, 11:30-1:00 p.m., Century Rm. A.
**Cardiology Conference**
Weekly, Friday, 8:00-9:00 a.m., Century
Rm., Contact: Anthony Forte, M.D.

## TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716.
Contact: Eric G. Ramsay, M.D. Approved for
Category 1 credit.

**Cardiology Conference**
1st, 3rd, & 5th Mondays, 12 Noon, Contact: M. Maximov, M.D.

**Dermatology Conference**
4th Monday, 5:00 p.m., Contact: R. Miller, M.D.

**Endocrinology Conference**
4th Monday, 12 Noon, Contact: M. Parker, M.D.

**Nephrology Conference**
2nd Monday, 12 Noon, Contact: Stephen Seltzer

**Perinatal Conference**
2nd Monday, 7:30 p.m., Contact: J. Lohman, M.D.

**Psychiatry Department Meeting**
3rd Monday, 12 Noon, Contact: Howard Winkler, M.D.

**Surgical Dept. Conference**
2nd Monday, 12 Noon, Contact: C. Peter Crowe, Jr., M.D.

**Hematology Conference**
4th Tuesday, 12 Noon, Contact: Gerald Giordano, M.D.

**Pulmonary/Infectious Disease Conference**
Weekly except 4th, Tuesday, 12 Noon, Contact: B. Friedman, M.D.

**Orthopedic Conference**
1st Tuesday, 7:30 p.m., Contact: Jay Katz, M.D.

**Pediatric Grand Rounds**
1st & 3rd Tuesday, 12:30 p.m., Contact: Dr. Lightner.

**Neurophysiology Conference**
2nd Tuesday, 5 p.m., Contact: Robert Foote, M.D.

**Clinical Pathology Conference**
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.

**Family Practice Meeting**
2nd Wednesday, 12:30 p.m., Jan., April, July, & Oct. Contact: C. Mangelsdorf, M.D.

**Medical Conference**
Weekly, Wednesday, 8:00 a.m., Contact: M. Fuchs, M.D.

**Neurology-Neurosurgery Conference**
Weekly, Wednesday, 12 Noon, Contact: H. W. Buschsbaum, M.D.

**Neuroradiology Conference**
Weekly, Thursday, 5:00 p.m., Contact: N. Komar, M.D.

**Tumor Conference**
Weekly, Thursday, 12 Noon, Contact: Cancer Committee.

**G—I Conference**
Weekly, Friday, 12 Noon, Contact: Charles Sanner, M.D.

**Interhospital Nuclear Medicine Conference**
Weekly, Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.

**OB/GYN Conference**
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.

**OB/GYN Pathology Conference**
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

## PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

**Medical/Surgical GI Conference**
1st & 3rd Monday, 3 p.m., Rm. 3134, Contact: Dr. Kozarek, Ext 413. Dr. Mertz, Ext 493.

**Cancer Symposium**
2nd Monday, 3-4 p.m., Rm T5, Contact. Dr. Byrne, Ext. 426.

**Orthopedic Surgery Conference**
2nd Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo.

**Surgery - Pathology Conference**
4th Monday, 4:00 p.m., Rm 3134, Contact: Dr. Mertz & Dr. Lanard.

**GI Grand Rounds**
Weekly, Tuesday, 1 p.m., Contact: Drs. Sanowski & Schaffner, after GI Grand Rounds, Rm. T-5.

**GI Radiology Clinical Correlation Conference**
1st and 3rd Tuesday, 12:00 noon, Rm. T-5, Contact: Dr. Sanowski.

**GI Pathology Conference**
2nd and 4th Tuesday, 12:00 noon, Rm. T-5, Contact: Dr. Sanowski.

**Urology Histopathology Conference**
Weekly Tuesdays, 8-9 a.m., Rm 2410, Contact: Drs. Haddad & Kivirand, Ext. 417.

**Pulmonary X-ray Correlation Conference**
Weekly Wednesdays., 12:30-1:30 p.m., Room 4115, Contact: Dr. Rohwedder, Ext. 388.

**Cardiology Conference**
2nd Thursday, 1 p.m., Room T-5, Contact: Dr. Habib

**Medical Surgical Chest Conference**
1st & 3rd Thursday, 12:30 p.m., Rm. 4115 Contact: Dr. Rohwedder.

**Medical Service Grand Rounds**
1st, 2nd, 3rd. & 5th, Fridays, 11 a.m., Rm. T-5, Contact: Dr. Zeller

**Medical Mortality Conference**
4th Friday, 11 a.m., Room T-5, Contact Dr. Zeller

**Urology Conference**
Weekly Friday. 12-1 p.m., Room 3134, Contact: Dr. Haddad, Ext 418.

**Vascular Conference**
2nd Friday, 8-9 a.m., Rm. 3134, Contact: Dr. Cintora, Ext. 419

## PRESCOTT VETERANS ADMINISTRATION HOSPTIA MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.

**Medical Rounds**
1st & 3rd Thursdays, 10:00 a.m.-2:30p.m.

**Surgical Rounds**
4th Thursday, 10 a.m.-2:30 p.m.

## TUCSON VETERANS ADMINISTRATION HOSPITA & MEDICAL CENTER (U of A Tucson)

3601 South Sixty Ave., Tucson, AZ 85723 Contacts listed below. Approved for Category 1 credit.

**Medical Surgical Chest Conference**
Weekly, Tuesday, 2 p.m., Contact: Dr. Young

**Medical Grand Rounds**
Weekly, Wed., 12-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.

**Surgical Grand Rounds**
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam

**Endocrinology Seminar**
1st, 3rd, & 5th Thursday, 12-1:00 p.m., Rn N318, Contact: Dept. of Internal Medicine

**Grand Rounds**
Weekly, Thursday, 11 a.m., Bldg 107, Contact: J. Fitzharris, D.O.

**Vascular Radiology, Interesting Case Con**
Weekly. Thursday, 12:00 noon.

**Neurology Grand Rounds**
Weekly, Friday, 12 p.m., Contact: Dr. Sibley.

## YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma Az 85364. Contact: Alan Winfield, M.D. Approved for Categor 1 credit.

**Radiology Conference**
1st Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Tuesday, 6:30 p.m.

**Pathology Conference**
4th Tuesday, 7:00 a.m.

**Operation Outreach**
2nd Wednesday, 7:00 a.m.

## U OF A HEALTH SCIENCES CENTER

ponsor: U of A College of Medicine, ucson, AZ 85724. Robert M. Anderson, D., Dir. of CME. Contact: See below. pproved for Category 1 credit.

**nesthesiology Board Review Conference**
d & 4th Monday, 4-5 p.m., AHSC Dining n. C&D, Contacts: Dr. Vaughn & Kryc.

**nesthesiology Basic/Clinical Sciences ctures**
eekly, Thursday, 4-5 p.m., Room 5403.

**nesthesiology Case Discussion**
eekly, Wed., 7:00 a.m., AHSC, Dining Rm. &D.

**nesthesiology Resident Presentation**
t Monday, 4-5 p.m., AHSC Dining Room, &D, Contacts: Drs. Otto & Zehngut.

**ncer Center Tumor Board Seminar**
d Tuesday, Monthly, 12-1 p.m., HSC uditorium, Contact: Cancer Center.

**rdiac Catheterization Conference**
eekly, Friday, 4:00 p.m., Contact: Dr. emkin.

**ardiology Research Conference**
eekly, Tuesday, 7:30 a.m., Contact: Dr. peske.

**ucson Cardiovascular Society**
t Thursday, 6:00 p.m., AHSC, Contact: r. Byrne-Quinn.

**inical Immunology, Allergy & heumatology Rounds**
ery Friday, Noon-1 p.m. Contact: John oyer, M.D., Dept. of Internal Medicine.

**erebrovascular Disease Conference**
ondays, 5-6 p.m., Weekly, Rm. 5505., ontact: Jerry Goldstone, M.D., Dept. of urgery.

**ermatology Conference**
h Monday, 5:15 p.m., AHSC, Contact: Dr. Friedman.

**ermatology Rounds**
eekly, Wed., 11:30 a.m., Contact: Dr. ynch.

**ndocrinology Seminar**
eekly, Thursday, 12-1 p.m., Contact: Dr. ohnson.

**mergency Medicine Grand Rounds**
uesdays, 9 a.m., AHSC, Contact: Dr. anders.

**l Pathology Conference**
h Friday, 1:30 p.m., AHSC, Contact: S. aplanus.

**l Radiology Conference**
nd. & 4th Mondays, 7:30 a.m., AHSC, ontact: Dr. T. Hunter.

**Head & Neck Tumor Management Conference**
Weekly, Wed., 4:00 p.m., Contact: Dr. Manning.

**Hematology-Oncology Clinical Conference**
1st & 5th Tuesdays, Noon-1 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.

**Medical Grand Rounds**
Weekly, Wed., 12-1 p.m., AHSC, Contact: Dr. J. Smith.

**Morbidity/Mortality in E.M.**
2nd Tuesday, 9 a.m., AHSC, Contacts: Drs. Hughes & Alcorn.

**Neuromuscular Disease Conference**
Weekly, Friday, 11:30 a.m., Contact: Dr. Stern.

**Neuropathology Case Review**
Weekly, Friday, 8:30 a.m., UAHSC, Dr. P. Johnson.

**Neuroradiology Conference**
Weekly, Thurs., 5:00 p.m., Contact: Dr. P.C. Christenson.

**Neuromuscular Journal Conference**
2nd & 4th Thursday, 7-9 p.m., Contact: Dr. Stern.

**Neurosciences Seminar**
Weekly, Tuesday & Friday, 7:30 a.m., AHSC, Contact: Dr. C. Bamford.

**Nuclear Medicine**
Weekly, Thursday, 7:30 a.m., AHSC Radiology Conference Rm.

**OB/GYN Lectures**
Weekly, Friday, 1 p.m., AHSC, Contact: Dr. C.D. Christian.

**Ophthalmology Grand Rounds**
3rd Friday, 7:30 a.m., AHSC, Contact: Dr. J. Herschler.

**Ophthalmology Retina Fluoro. Conference**
Weekly, Thursday, 5 p.m., AHSC, Contact: Dr. H. Cross.

**Orthopedic Rounds**
Saturday, 8:00 a.m., Contact: Dr. Peltier.

**Pain Conference**
3rd Monday, 4-5 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.

**Pathology Conference**
Weekly, Monday, 12 noon, AHSC, Contact: Dr. C.D. Christian.

**Pathology Seminar**
Weekly, Friday, 4:30-5:30 p.m., AHSC, Rm. 5120. Contact: Dr. P. Finley.

**Tucson Pathologist Conference**
1st Monday, 7:30 p.m., AHSC, Contact: Dr. A. R. Graham.

**Pediatric Grand Rounds**
2nd, 4th & 5th Tuesdays, 12 p.m., AHSC, Contact: Dr. H. Thompson.

**Pediatric Problem Patient Conference**
Weekly, Wed., 8:00 a.m., Contact Dr. Lillian Valdes-Cruz.

**Pediatric Research Forum**
Weekly, Tuesday, 7:30 a.m., Contact: Dr. Otakar Koldovsky

**Pediatric Specialty Conference**
Weekly, Friday, 8:00 a.m., Contact: Dr. Marilyn Heines & Jane Ruggill.

**Psychiatric Grand Rounds**
Weekly, Wednesday, 5:30 p.m., AHSC, Rm. 8403, 5th Floor Auditorium.

**Psychiatric Monthly Case Conference**
2nd Friday, 7:30 a.m., Contact: Dr. Alan Levenson, Palo Verde Hospital.

**Pulmonary Rounds**
Weekly, Friday, 11:30 a.m., Contact: Dr. Benjamin Burrows.

**Chest Radiology**
Weekly, Monday, 5-6 p.m., Rm. 1535F, UAHSC. Contact: Irwin M. Freundlich, M.D., Dept. of Radiology.

**Neuroradiology Teaching Conference**
Weekly, Wednesday, 7:30 a.m., AHSC, Contact: Dr. Christenson

**Radiation Oncology Planning Conference**
Weekly, Friday, 8:30-10:00 a.m., AHSC, Rm. 0655

**Radiology Interesting Case Conference**
Weekly, Thursday, 12:00 noon, AHSC, Contact: Dr. Freundlich.

**Radiology-Rheumatology Conference**
Weekly, Thursday, 7:45 a.m., UAHSC, Library Rm.1535C.

**Renal Pathology Conference**
1st, 3rd, & 5th Thurs., 11:30 a.m., Contact: Dr. Nagle.

**Residents Noon Conference**
Weekly,Tuesday & Thursday, 12:00 noon, AHSC, Contact: Dr. A. Greensher.

**Resident's Conference**
Weekly, Wed., 5-6 p.m., Diag. Radiology Conf. Rm.

**Surgical Grand Rounds**
Saturdays, 9:00 a.m., Rm. 5403, AHSC, Contact: Dr. Wangensteen.

**Surgical Morbidity & Mortality Conference**
Weekly, Wed., 8:00 a.m., Contact: Dr. Wangensteen.

**Trauma Conference**
Thursday, 4:00-5:00 p.m.. AHSC, Rm. 5505.

**Toxicology Conference**
Weekly, Tuesday, 8:00 a.m., Contact: Dr. Keith Likes.

**Tucson Ultrasonography Group**
Weekly, Wed., 4:30 p.m., AHSC, Contact: Dr. I. Freundlich.

**General Urology Conference**
Weekly, Tue. & Thurs., 12:00 noon, AHSC & VA Hospital Contact: Dr. G.W. Drach.

**Vascular Surgery Conference**
Weekly, Tuesday, 4-6 p.m., AHSC, Contact: Dr. J. Goldstone.

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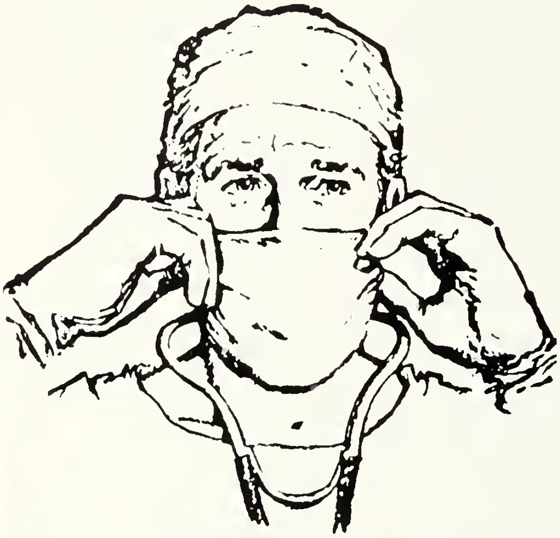

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# Dispel the Clouds of Fall an

## RU-TUSS®
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**Each prolonged action tablet contains:** Phenylephrine Hydrochloride 25 mg • Phenylpropanolamine Hydrochloride 50 mg • Chlorpheniramine Maleate 8 mg • Hyoscyamine Sulfate 0.19 mg • Atropine Sulfate 0.04 • Scopolamine Hydrobromide 0.01 mg • Each Ru-Tuss tablet acts continuously for 10 to 12 hours.

## Symptomatic Relief of Sneezing and Nasal Congestion

Comprehensive decongesting, antihistaminic and anti-secretory reliever for patients with nasal, sinus and other upper respiratory irritation.

• Eases breathing • Reduces sneezing
• Reduces tearing • Dries the drip

One tablet b.i.d. gives round-the-clock relief to adults and older children (12 years and over).

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## EXPECTORANT

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• Reduces sneezing • Eases breathing
• Tasty, so it's easy to take

# To Relieve the Symptoms of Winter Weather Upper Respiratory Distre

# RU-TUSS®/RU-TUSS®

TABLETS EXPECTORANT

## RU-TUSS®
### Tablets

**DESCRIPTION**

Each prolonged action tablet contains:

| | |
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| Phenylephrine Hydrochloride | 25 mg |
| Phenylpropanolamine Hydrochlaride | 50 mg |
| Chlorpheniramine Maleate | 8 mg |
| Hyoscyamine Sulfate | 0.19 mg |
| Atropine Sulfate | 0.04 mg |
| Scopolamine Hydrobromide | 0.01 mg |

Ru-Tuss Tablets act continuously for 10 to 12 hours.

Ru-Tuss Tablets are an oral antihistaminic, nasal decongestant and anti-secretory preparation.

**INDICATIONS AND USAGE** Ru-Tuss Tablets provide relief of the symptoms resulting from irritation of sinus, nasal and upper respiratory tract tissues. Phenylephrine and phenylpropanolamine combine to exert a vasoconstrictive and decongestive action while chlorpheniramine maleate decreases the symptoms of watering eyes, post nasal drip and sneezing which may be associated with an allergic-like response The belladonna alkaloids, hyoscyamine, atropine and scopolamine further augment the anti-secretory activity of Ru-Tuss Tablets.

**CONTRAINDICATIONS** Hypersensitivity to antihistamines or sympathomimetics. Ru-Tuss Tablets are contraindicated in children under 12 years of age and in patients with glaucoma, bronchial asthma and women who are pregnant. Concomitant use of MAO inhibitors is contraindicated

**WARNINGS** Ru-Tuss Tablets may cause drowsiness Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers.

**PRECAUTIONS** Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucama, or urinary bladder neck obstruction Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac ar peripheral vascular disease or hyperthyroidism. Patients should avaid driving a motor vehicle or operating dangerous machinery (See Warnings)

**OVERDOSAGE** Since the action of sustained release products may continue for as long as 12 hours, treatment of overdases directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time. Saline cathartics are useful far hastening evacuation of unreleased medication. In children and infants, antihistamine overdasage may produce convulsions and death.

**ADVERSE REACTIONS** Hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis, and thrombocytopenia may occur Other adverse reactions to Ru-Tuss Tablets may be drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerotamia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervausness, dizziness and insomnia Large overdoses may cause tachypnea, delirium, fever, stupor, coma and respiratory failure.

**DOSAGE AND ADMINISTRATION** Adults and children over 12 years of age, one tablet morning and evening Not recommended for children under 12 years of age Tablets are to be swallowed whole

**HOW SUPPLIED**:

| | |
|---|---|
| Bottles of 100 Tablets | NDC 0524-0058-01 |
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## RU-TUSS®
### Expectorant

**DESCRIPTION**

Each fluid ounce of Ru-Tuss Expectorant contains:
Codeine Phosphate 6
(WARNING: MAY BE HABIT FORMING)
Phenylephrine Hydrochloride
Phenylpropanolamine Hydrochloride
Pheniramine Maleate
Pyrilamine Maleate
Ammonium Chloride
Alcohol

Ru-Tuss Expectorant is an oral antifussive, antihistaminic, nasal decongestant and
torant preparation.

**INDICATIONS AND USAGE** Ru-Tuss Expectorant is indicated for symptomatic relief c
respiratory congestion associated with pharyngitis, tracheitis, bronchitis, and allerg
tis. Also, for the temporary relief of symptoms associated with hay fever, allergie
congestion and cough due to the common cold

**CONTRAINDICATIONS** Hypersensitivity to antihistamines. Concomitant use of c
hypertensive or antidepressant drug containing a monoamine oxidase inh
contraindicated.

Ru-Tuss Expectarant is contraindicated in patients with glaucoma, bronchial asthr
in women who are pregnant

**WARNINGS** Ru-Tuss Expectorant contains codeine phosphate, therefore, the patien
be warned of the potential that this drug may be habit forming Ru-Tuss Expectora
cause drowsiness Patients should be warned of the possible additive effect cou
taking antihistamines with alcohol, hypnotics, sedatives and tranquilizers

**PRECAUTIONS** Patients taking Ru-Tuss Expectorant should avoid driving a motar ve
operating dangerous machinery (See Warnings). Caution should be taken with
having hypertension, diabetes, hyperthyroidism and cardiovascular disease.
Caution should also be used in patients with pulmonary, hepatic or renal insufficie

**ADVERSE REACTIONS** Ru-Tuss Expectorant may cause drowsiness, lassitude, gic
dryness of mucous membranes, tightness of the chest, thickening af bronchial sec
urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertensio
ness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydrias
stomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigas
tress, hyperirritability, nervousness, and insomnia Overdoses may cause restle
excitation, delirium, tremors, euphoria, metabolic acidosis, sfupor, tachycardia or
convulsions.

**DOSAGE AND ADMINISTRATION** Adults: 1 or 2 teaspoonfuls, orally, every 4 hours
exceed 10 teaspoonfuls in any 24-hour period

Children 6 to 12 years of age: ½ the adult dose, nat to exceed 6 teaspoanful
24-hour periad Children 2 to 6 years of age: ½ teaspoonful every 4 hours,
exceed 3 teaspoonfuls in any 24-hour period Children under 2 years of age:
directed by a physician.

**HOW SUPPLIED**: (16 fl. oz.)

Pint Bottles NDC 0524-

Federal law prohibits dispensing without prescription.

**MANUFACTURED AND DISTRIBUTED BY:**
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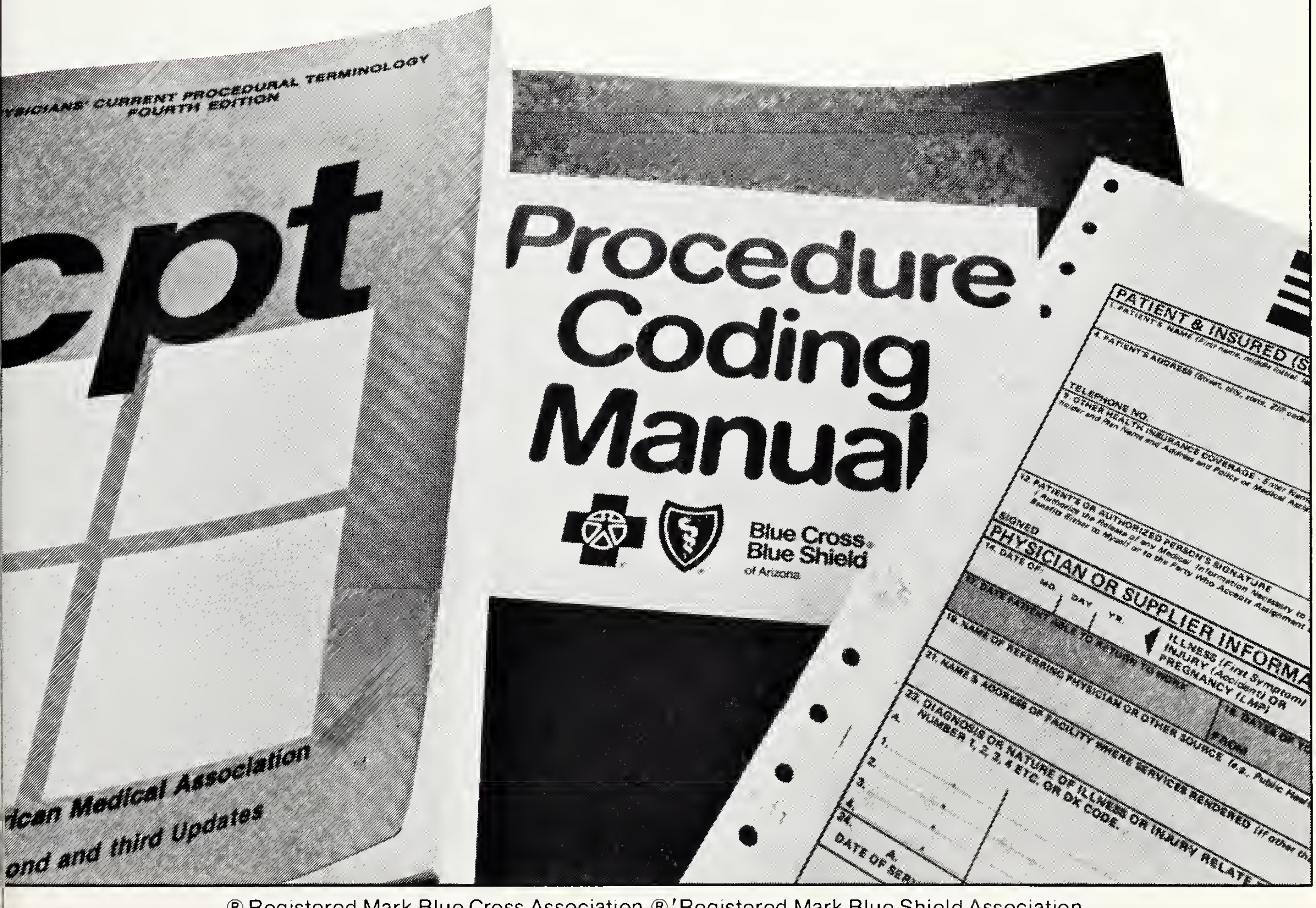

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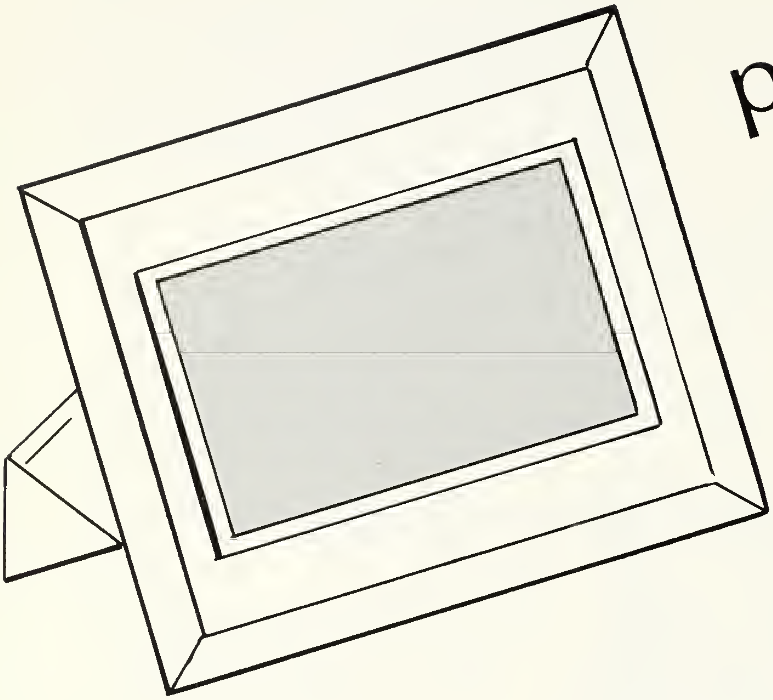

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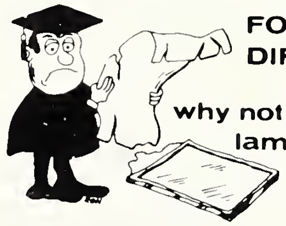

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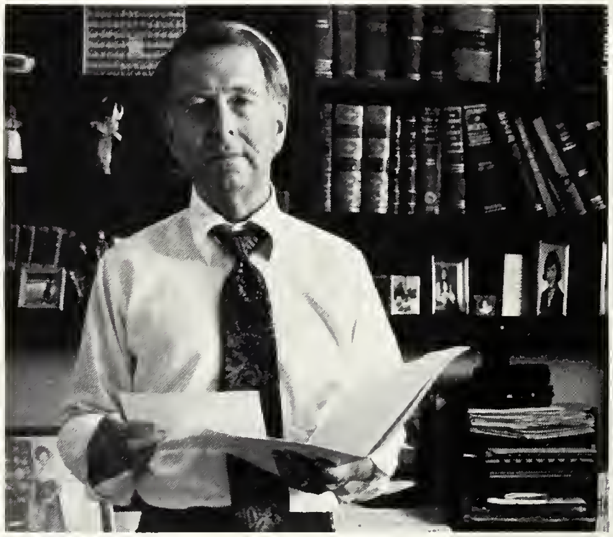

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